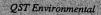


2 of Assendin B Final BASF Phase I RFI Report

Soil Boring Logs for SWMU H



Log of Boring SPO1A

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science		
Drilling Rig: Keck (TM) Soil Punch	·	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/11/96 Date Comp	Total Depth Drilled (ft.): 20	
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-20 Grout Type: Bentonite chip

NO WELL INSTALLED

1 _	[]		PI	D or FID			1 1	Borehole	
Depth (feet bgi)	Blow Counts	Sample Recovery (%)	Values	(ppm) Profile	Soil/Rock Description and Comments	USCS	Lithologic Log	Completion	Flexation (#1)
Ρ		1			Clay brown and orange, moltled clay with a trace of sand.	CL		· · · · · · · · · · · · · · · · · · ·	
-2		95%	0		Clay brown with some limestone, gravel, trace of coal fragments.	CL			
-4 -			300		Clay light brown with some limestone, gravel, trace of sand. Moist @ 4.5'.	CL	101101101101101101101101101101101101101	·	
-6		 40%	500		Sand dark grey, fine grained, well sorted, silty. Compact (Saturated?) SAMPLE TAKEN.	SM			
•					No recovery.				
- 8 -		50%	200		Siag Gravel black, fine to medium grained sand with some clay.	GC	0000		
					·				
12		*						~	
14		0%							
16		*			Na recavery.				
18		0%							

Log of Boring SP02A

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soll Sampling Device: 4' Lined 2" Steel Sampler

Date Started: 9/11/96 Date Completed: 9/11/96

Apparent Depth to Saturation While Drilling (ft. bgl): 5.5

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite chip

NO WELL INSTALLED

BASF Wyandotte S					ndotte	SWMUH .	g of Boring SP02A			
	(jōq			P	ID or FID (ppm)				Borehole Completion	3
	Obpth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Clay brown with a trace of gravel.	CL]
	-2		95%			Clay brown and orange,mottled, stiff.	CL		·	
	-			0		Slag Gravel black with coarse grained sand, and some clay. Dry.	GC			
İ	-4	•				Slag Gravel black and orange. Limonite staining at 5'.	GW	500c		
	•		90*	200		Sand dark grey to grey, coarse grained with gravel and some clay. Moist.	SP	 .00:0]
	-6		60%	600 200		Slag Gravel black with coarse sand. Saturated. Clay dark grey, stiff.		0 0		
	-8 - -10 -		0%			No recovery.				
	-14		75 x	1000+			ОН			
	1 6		<u> </u>			No recovery				
	-18 -					End of boring.				
}	-20									1

Log of Boring SP02C

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	•	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer	
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/11/96 Date Comp	Total Depth Drilled (ft.): 20	
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-20	Grout Type: Bentonite chip

NO WELL INSTALLED

BASF Wyandotte SWMUH Log of Boring							of Boring SP	02C		
feet bgl	Blow	втоје	scovery (X)	90	(D or FID (ppm) Profile	Soil/Rock Description and Comments	Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-2	面 O		0%				CL	0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	·	
74 , "	:	60	0%				sc .			-
-6 -		60	0%	20		MUISE.	SM CL	0 - 0 -		
-8		 -;		700		No recovery. Clay dark grey, very plastic with some gravel.	$-\tau$			-
- -10		25	5%	800		Slag Gravel black, with coarse grained sand. Saturated.	БМ	000		-
- ⊣2 -		- -)				·				
⊣ 4		0%	X.							-
-1 6		7				No recovery 9.5-20° very soft till 19°, drove hard 19-20°. Woodplug in last spoon				-
-1 8		0	×		•					
-20										

Log of Boring SPO2CII

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soll Sampling Device: 4' Lined 2"	Steel Sampler Borehole Diameter (in.): 2						
Date Started: 9/11/96 Date Comp	leted: 9/11/96	Total Depth Drilled (ft.): 8					
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):						

Completion Information

•		· · · · · · · · · · · · · · · · · · ·
١	Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SI						WMUH Log of Boring SP02				
***	Depth (feet bgi)	Blow Counts		Recovery (%)	•	D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	٩ ، ٧		95				Clay brown and grange, nottled, stiff, with some limestone gravel.	CL			-
	- φ		25	•		·	Sand light brown, fine grained with clay, some silt and slag gravel.	SP		·	
	-8		20	~			No recovery				
	- -do		0,	×			End of Baring No recovery. (Hit railroad tie).				
	-1 2		*							_	
	-14										-
	-16										1
	-18										
ł	-20	Ì		-	l	Į					1

Log of Boring SPO2CIII

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF				
Drilling Company: Environmental Sci				
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer			
Soil Sampling Device: 4' Lined 2"	Steel Sampler Borehole Diameter (in.): 2'			
Date Started: 9/11/96 Date Co	ompleted: 9/11/96	Total Depth Drilled (ft.): 20		
Apparent Depth to Saturation While	Ground Elevation (ft.):			

Completion Information

Grout Interval (ft. bgl): 0-20	Grout Type: Bentonite chip

NO WELL INSTALLED

Exp	lana [.]	tion	8	Comm	nent	: 5

E	BAS	SF	· v	۷,	/an	dotte s	SWMUH	Lo	g of	Boring SP02C	IJ
(gi					ΡΙ	D or FID (ppm)				Borehole Completion	_
Depth (feet bgl)	Blow	Counts		Recovery (x)	Values	Profile	Soli/Rock Description and Comments	USCS Classification	Lithologic Log		Flavation (++)
-0 - -2 -			100				Clay brown and orange,mottled, stiff, with some limestone gravel.	CL			
-4			909	۲			Sand light brown, fine grained, clay, some silt and slag gravel. Saturated 0 4.5'.	SC			
-8		-	*	1	400		Siag Gravel black. Saturated.	GW	<u>2.2</u>		
-					/ 100		Peat dark brown.	PT			
-10			 40:	١			Clay grey and plastic.	CL			
- -12 -			0%								
-16			*				No recovery. Last foot drove hard- gravel in end of tube.				
48			0%		/ 20						
-20]	Ì	

Log of Boring SP03A

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/12/96 Date Completed: 9/12/96	Total Depth Drilled (ft.): 20
Apparent Depth to Saturation While Orllling (ft. bgl): 4.0	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-20	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	-	W	yar	dotte 5	SWMUH		Log	of Boring SP	ОЗА
静	(jbq				P	(D or FID (ppm)				Borehole Completion	7
	Depth (feet bg!)	Blow Counts	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	7		ľ				Clay brown, with gravel.	CL	0 – 0 – 0 – 0 – 0]
	-2		90	2%				вс			-
l	-				100		Sand coarse grained and black slag gravel.	SW SW	6 8		1
	,			,	100	•	Sand dark brown, fine grained with some slag gravel.	-	gili di		
[-4		1		300		No recovery	SM	ב זב זנ		1
-					1000+		Sand dark brown, fine grained. Saturated	РТ	FF		4
							Peat dark brown to black,fine grained sand, and silt.				
	- С		25	*			No recovery				
			1	_		1	Sand brown, fine grained with peaty material, compact. Possibly Saturated	SM]
	-10 ·		10				No recovery				-
	-14		0:	*							
					700		Clay dark brown, very plastic, silty. SAMPLE TAKEN	сн			
	-18		90	×			Clay green-grey and orange, mottled and stiff	CL			1
	-20						No recovery				-

Log of Boring SPO3AII

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and E	ngineering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel	Sampler Borehole Diameter (in.): 2"
Date Started: 9/12/96 Date Completed:	7/12/96 Total Depth Drilled (ft.): 20
Apparent Depth to Saturation While Drilling (ft	bgl): 4.0 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-20 Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	- W	yan	dotte S	SWMUH	L	og o	Boring SPOS	BAII
	Depth (feet bgi)	Blow	Sample Becovery (%)		D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	9		1			Clay brown, with gravel.				1
	2		90%	1 1		Linestone Cobbles tan with some clay.	GW			-
	-			/100 /100		Slag Gravel black with coarse grained sand.	GP CB	• •		4
				/100		Sand dark brown, fine grained with some slag gravel.	SP	• • •		
	- 4		*	/300+		No recovery, wet tube lip.	SP	0.0		1
				1000		Sand dark brown as above. Saturated.	PT		Ī]
	-6		25%	1000	•	Peat dark brown to black with fine grained sand and silt. (Very high vapor pressure-chilfs hand through glove).				
	-					No recovery				
•	- 8		*			Sand fine grained with peaty material.	SW			
	- ⊣o		10%							
i	⊣ 2		+							1
	-					No recovery			-	1
	⊣ 4		0%							4
	- ⊣6		*					_		1
	-18		90%	/700		Clay dark brown, very plastic, silty. SAMPLE TAKEN	占			
	-				ļ	Clay green-grey and orange, mottled. Stiff.	CL			1
	- 20		₹	1						1

Log of Boring SP03C

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/12/96 Date Completed: 9/12/96	Total Depth Drilled (ft.): 20
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-20	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	-	W	yan	dotte S	SWMUH		Log	of Boring SP	03C
	Oepth (feet bgl)	Blow Counts		Recovery (X)	87	D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	- -		75				Clay brown,stiff, with a trace of gravel.	CL			
	-						Cobbles limestones with some clay and sand. Wet on end of tube	GC			_
	-4		+	<u>, </u>			No recovery	GC			-
·	-				500		Cobbles limestone as above. Wet. Sand dark grey, fine grained with some gravel	SW			
	-6		85 	*	800		Sand black, fine grained with some gravel	SW	5 6		1
	-						No recovery				_
	- 8 -				000+		Peat black, wood, and fine grained sand. Moist.	PΤ	17 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		
	-1 0		50	×	700		Clay grey, plastic with woody material	CL			
	- -12 -		 - 				No recovery			_	-
	-14 -		09	٤							1
	-16 - -18		70	- 	70		Clay dark green-brown, plastic	CL			
	.			7	8		Clay green-grey, stiff	CL			
	-20		<u> </u>	-			No recovery				-

Log of Boring SP04A

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/12/96 Date Comp	oleted: 9/12/96	Total Depth Drilled (ft.): 5
Apparent Depth to Saturation While Dri	illing (ft. bgl): 4.0	Ground Elevation (ft.):

Completion Information

	T
Grout Interval (ft. bgl): 0-5	Grout Type: Bentonite chip

NO WELL INSTALLED

_				PI	D or FID				Borehole	
Depth (feet bgi)	Blow	•	Recovery (%)	Values	(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	
0						Clay brown, with some slag and limestone gravel.	CL			
						Slag Gravel black with dark grey sandy clay.	GC	2002		
2		90	×	500		Sand dark brown to black, fine grained, silt, and some clay.	SM			
4		¥	_	{		DBO light grey with coarse grained sand.		× × ×		
		Î		500		Siag Gravel black and red. Saturated.	GP	000		
3		25	*			Refusal @ 5° - Asphalt with concrete underlayment.				
,		_#	-		ı	End of Boring.				
0										
2										
				į					_	
4										
3										
3										
- 1	1		1	- 1]				}	

Log of Boring SPO4AII

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/24/96 Date Comp	Total Depth Drilled (ft.): 24	
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-24 Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASI	= W	ly	an	dotte S	SWMUH	L	09 0	f Boring SPO	4AII
g				PI	D or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow	Sample	necovery (A)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	•	Elevation (ft.)
7						Topsol with grass, gravel, clay, and fil. Moist to wet.	CL	-0-0- -0-0-		
-2						Gravel & Fit moist to wet.	GW	00000 0000 0000	·	1
-4						Gravel black with coarse sand. Saturated.	- 1			-
-6 -8						Clay sity with greyish black sand. Wet.	CL	o		1
-10						•		-		-
- -12						No recovery.				
-14										1
-16						Gravel black with coarse grained sand. Saturated.	GW	000		
18		II				SIt grey, sandy, fine grained. Wet.	мн			1
-20						Sand grey, fine grained. Saturated.	SW			

Log of Boring SPO4D

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4' Lined 2" Steel Sampler

Date Started: 9/13/96 Date Completed: 9/13/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-25 Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASF	- W	yan	dotte 9	SWMUH		Log	of Boring SP	04D
(100			PI	(D or FID (ppm)				Borehole Completion	
Oepth (feet bgi)	Blow Counts	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
					Clay brown with slag gravel.	CL	0-0-		
					Clay brown and orange, nottled, and sandy.	CL			1
-2]	75%	/100 /0		Condition of the second of the				
~		13%	/0		Sand tan, fine grained, indurated.	SW	33.44.44	Ī	7
					No recovery.				4
⊢4 -			/500		Clay grey, very plastic, sandy, and gravelly. Saturated.	CL	0 - 0 - 0 - 0 -		
-6		50%	/0		DBO? light brown, sandy, and sitty. Moist.	CL	* * * * * * * * *		
- -8		*			No recovery.				1
- -10 -		0%			·				
-1 2 -		*						-	1
-14		0%			No recovery. Yery soft.				1
-16		*							1
-1 8		0%							
-20									1

В	AS	F	W	yar	dotte	SWMUH		Log	of Boring SP	04[
(<u>6</u>				P	ID or FID (ppm)				Borehole Completion	_
O Depth (feet bgl)	Blow	Samole	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	Classification	Lithologic Log		Elevation (ft.)
-22		0	x			No recovery. Very soft.				
-24										
-26						End of Boring	- L	<u></u>		
- -28										
-30										
-32									_	
-34	,									
-36										
-38										
-40										

Log of Boring SPO4DII

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scient	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/24/96 Date Comp	Total Depth Drilled (ft.): 20	
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

	
Grout Interval (ft. bgl): 0-20	Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASF	- W	ya	ndotte S	SWMUH	L	og o	f Boring SPO4	‡DII
(jĒq			,	PID or FID (ppm)				Borehole Completion	-
Oepth (feet bg!)	Blow Counts	Sample Recovery (%)		Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
_					Tapsol with grass.	CL	•-•-•		1
-2					Cay brown and grange mottled, medium stiffness with trace coarse grained sand and some peat. Noist.	CL			
. 1					Sand grey, silty with fill, trace brick, and gravel. Saturated @ 3'.	SM			
-					880 greyish white. Wet.	CL	X X X X X X X X X X X X X X X X X X X		-
-8					Sand black, silty with gravel fill. Saturated.	SM			4
- - - -12					No recovery.				
-14									-
-16 -							-70-70-10		
-18 -					Sit greyish-brown, peaty with trace fine grained sand and soft. Grades to greyish-brown silt. Moist to wet.	OL		·	
-20					Sand grey, fine to medium grained. Saturated.	SW			j

Log of Boring SP05A

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, 1	īnc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/12/96 Date Completed: 9/12/96	Total Depth Drilled (ft.): 4.2
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4.2	Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASF	= W	yan	dotte S	SWMUH		Log	of Boring SP	05A
(6)			PI	D or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
					Clay dark brown, with some gravel.	CL	0 0 0		
Ī					Sand black, fine grained, with slag graveL	SP	0.0		1
-2		45%		. :	Sand dark grey,fine grained,with some white limestone cobbles and clay	sc			-
4		*	700		Siag Gravel black.	GP	<u> </u>		-
					No recovery. Refusal 8 4.2°.				-
6		10%							
r		10%							
						-			
В		.			End of Boring	_i	لـــــا		4
+							•		-
40									
-									-
-12									
H4									1
									4
H6									1
-					·				
H8									-
-									1
-20									1

Log of Boring SP05B

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hyraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 9/12/96 Date Completed: 9/12/96	Total Depth Drilled (ft.): 5
Apparent Depth to Saturation While Drilling (ft. bgl): 3.1	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-5	Grout Type: Bentonite chip

NO WELL INSTALLED

									
E	BAS	F W		ndotte S	SWMUH		Log	of Boring SP	058
Depth (feet bgl)	Blow	Sample Becovery (%)	8	ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
9		1			Clay brown, with some gravel, and coarse grained sand	CL	0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -		
- 2		75%	200		Sand dark grey-brown, coarse grained, with some clay and gravel.	sc			
			500	 	As above. Saturated BASF SAMPLE TAKEN	sc			
4		-*	-		No recovery		00		
}					Siag Gravel black, with some coarse grained sand. Saturated	GW	0000		
-6 - -		10%			No recovery. Probably hit asphalt at 5° BSG. End of Boring				
-10					·				
- -12								-	
-14 -					·				
-16									
-18									
-20									

Log of Boring SP05C

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4' Lined Steel Sampler

Date Started: 9/12/96 Date Completed: 9/12/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-20 Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring SP05C										
70	(150				PI	D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	7			`			Clay brown, with some slag gravel.	CL			
	-						Clay dark brown, with some gravel.	CL	0-0-0		1
	-2		90	×	100		Sand dark brown and white, fine grained, with some limestone cobbles, and clay	sc			Total Control
ļ	-4		- X		- 1		No recovery				-
	-6		50	1	700		Slag Grave l black, fine grained sand and clay. Moist	GC	000000000000000000000000000000000000000		
	-в						No recovery. Yery soft.				
	- -10		07	۲						i	
	-1 2		X				No recovery			_	
	-14		09	ا د							
	- 16		*		700		Studge grey, very plastic.				
	-18		90		700		Leual Feat	PT SM			
	-20			-			No recovery		a to particular to the		1

Log of Boring SP06A

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science a	nd Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined S	teel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Complete	d: 9/13/96	Total Depth Drilled (ft.): 20
Apparent Depth to Saturation While Drilling	(ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-20	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring SP06A									
***	(igi			P	(D or FID				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	- 0		1			Clay brown, with some gravel.		-0-0-		
	-					Slag Gravel black, with some sand.	GP			-
1	-2		100%	0		Clay white to light grey with some sand.	CL			-
	-4			20		Slag Gravel black to green-brown, with some fine grained sand and silt. Hoist on tip of spoon.	GP	000		
	- 4 -6		80%	100		Slag Gravel black, with coarse sand. Saturated.	GP	000000000000000000000000000000000000000		
	-			100		SIt light and dark brown with fine grained sand and organic material. Ory.	SM	0 0		
	8		*	100		No recovery.	OL)	113		1
				1000+		Clay green-grey & black with silt and organic material.	PT			- 1
						Peat dark red-brown.				- 1
1	-10		60%	400		Clay green-grey, with orange moltling.	CL			1
	•				·	No recovery				
	-12 -			700		Clay dark brown, very plastic.	СН		-	4
f	-14		25%	1000+		Sand green-brown, fine grained, well sorted silty. Saturated.	SM			1
}						No recovery.				4
	1 6					Sand as above, saturated.	SM]
	1 8		60%	100		Sand light grey, fine grained, well sorted, silty. Saturated.	SM			
	-20					No recovery.				

Log of Boring SP06B

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Scie	ence and Engineering, Inc.		
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer		
Soil Sampling Device: 4' Lined	Borehole Diameter (in.): 2"		
Date Started: 9/13/96 Date Co	Total Depth Drilled (ft.): 4		
Apparent Depth to Saturation While [Ground Elevation (ft.):		

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring SPO									
	bgil			P	ID or FID (ppm)			Borehole Completion	~	
	Oepth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments SOSO			Elevation (ft.)	
			1			Clay brown, with some cobbles.				
	-2 -		60%	1		Slag Gravel dark grey & tan, with some fine grained sand, clay. GC				
		ĺ			İ	No recovery. Refusal & 3'. (Concrete).			1	
	-4		+			End of boring	<u> </u>	J		
									1	
Ì	-6								†	
						·			1	
·					[
	8		 		<u> </u> 				1	
	•				ļ		•			
}									-	
ļ	1 0				}				. 1	
	-								4	
					[Ī	
	1 2				İ				1	
ŀ	•							_	4	
1	14				<u> </u>					
	14								1	
-	•								1	
	1 6					•]	
	.5	!		}				l		
-									+	
	-18									
	-20								1	

Log of Boring SP06C

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 9/13/96 Date Completed: 9/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl):	0-4	Grout Type: Bentonite chip

NO WELL INSTALLED

PID or FID					Wyandotte SWMUH PID or FID				80
Depth (feet bgl)	Blow Counts	Sample Recovery (%)	Values	(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Flevation (ff.)
0					Clay brown, with some gravel.	1 1	0 0 0		
2		90%	10		Slag Gravel black, with fine grained sand & silt, clay. Laminated	GC			
4		*			No recovery. End of Baring	_	وممت		
		1							
3									
3					ı				
0									
	·								
2								_	
4									
6									
8									
ĺ				{					

Log of Boring SP06D

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Completed: 9/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

	Y
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log								of Boring SP	08D
	Depth (feet bgl)	Blow Counts	Sample Secovery (%)	•	ID or FID (ppm) Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0 -		1			Clay brown, with some slag and coal fragments.	CL			4
	-2		60% 	o		Slag Gravel dark brown, with some coal, gravel and fine grained sand and clay.	GC	20 0 0		
	-4					No recovery. Refusal due to concrete.				
	-					End of Boring				
	- 6									
) 8									
	-					•		•		
	-10 -									
	- 12									
									~~	
	-14 -								·	1
	- 16									4
	- -18									4
***	•									-
ł	-20									1

Log of Boring SP06E

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Enginee	ring, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Completed: 9/13/96	Total Depth Drilled (ft.): 20
Apparent Depth to Saturation While Drilling (ft. bgl):	4.5 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-20 Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH						Log	of	Boring	SPO	3E		
	(jgq				P	ID or FID (ppm)					Borehole Completion		•
	ë			B			Soil/Rock Description	6				3	E
- } -	Ĕ	ł			ě		and Comments	i i	ا و	1			<u>د</u>
	Depth (feet bgl)	Blow Counts	Sample	Recover	Values	Profile		USCS Classification	Lithologic Log			i	Elevation (ft.)
۲	,		7				Clay brown, with some gravel.	CL	-0-0-				
-2			90	1%			Stag Gravel dark brown, with some coarse grained sand & some clay	GC		·			
L							DBO white with some coarse grained sand.	CL	x x x				
Γ				-	10		Slag Gravel dark grey with some sand and clay.	GC	000				1
4			J		IU		No recovery, moist at tip of barrel.						
-			1	١ '			DBO tan, sandy.	CL	×××				
6			75	x	200		Siag Gravel black, saturated.	GM .	000000 000000 000000				4
					100		Clay green-grey silty.	CL	× 6× -				
-8 -10	o		02	*			No recovery.						
							Clay green-grey, plastic.	СН		·	-		
44	4		60	×	000+		Peat brown.	PT	///				4
	. [Ī				Clay green-grey, plastic.	CH				Ī	
-	ł		ł				Sand green-brown, fine grained, well sorted. Saturated.	SM					4
							No recovery.						
H6	3		 		800		Clay green-grey, plastic. SAMPLE TAKEN.	СН					1
-18			75	- 1	400		Sand orange-brown, fine grained, well sorted, silty. Saturated.	SM					
			Ī	- 1	400		Sand grey, fine grained, well sorted, silty. Saturated.	SM					
-20	0		\	_			No recovery.						

Log of Boring SP07A

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer							
Soll Sampling Device: 4' Lined 2"	2" Steel Sampler Borehole Diameter (in.): 2							
Date Started: 9/10/96 Date Com	Total Depth Drilled (ft.): 12							
Apparent Depth to Saturation While D	Apparent Depth to Saturation While Drilling (ft. bgl): 4.5							

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring S									07A
*	(jōq			P	ID or FID (ppm)				Borehole Completion	•
	Depth (feet bgl)	Blow Counts	ole Werv (%)	Values	Profile	Soll/Rock Description and Comments	USCS Classification	ogic	·	Elevation (ft.)
) Det	Blow Coun	Samp				—	Lithologic Log		Ele
						Clay dark brown, with coarse slag sand, trace of roots.	sc			}
	<u>-</u>						GC	0000		-
	-2	l	50%	400			GC /			1
	_	}			i	Slag Gravel black with some clay. Moist.	رعد			- 1
	-					No recovery.				-
	-4		*			Slag Gravel black with some clay, (possibly sluff). Saturated.	GC	2000		1
	-6		20%	400		No recovery.				.
	-8					Siag Gravel black with some clay, (possibly sluff). Oily sheen, saturated.	GC	2001 2001		
	10		70%	400		Sand grey-brown, fine grained, well sorted silty, compact. (Saturated?). SAMPLE TAKEN.	SM			.
	12					No recovery.]
	12				ı	End of boring.		-	_	
	14									
-									Į	
ł										4
-1]
ļ	16								j	1
Ţ]
									{	1
-	18								1	1
									ł	
^ }	}								1	4
						·			}	
ŀ	20	}		} }					ł	1

Log of Boring SP07C

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Scien	Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 9/10/96 Date Com	pleted: 9/10/96	Total Depth Drilled (ft.): 12						
Apparent Depth to Saturation While Dr	illing (ft. bgl): 4.0	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring SF								of Boring SP	07C
卷:	(lgc			PI	D or FID (ppm)				Borehole Completion	
	Oepth (feet bgl)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	7					Clay dark brown, sandy with some limestone gravel.	CL]
	 2		40%			Sand light brown, medium grained, medium sorted. Moist.	SW			
	-					No recovery.				-
	4 -			500		Slag Gravel black, oily sheen. Saturated.	GW	0000		
	- 6		25%			No recovery.			·	-
	-8			800		Siag Gravel black. (possibly sluff)	GW	000		1
	-1 0		40%	400		Sand grey-brown, fine grained, well sorted silty with a trace of roots. Saturated.	SM			1
						Na recovery.				4
	-1 2					End of boring.	1		_	
	-1 4									
	1 6 ·									1
	-18									
	-20		1							1

Log of Boring SPO8A

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF								
Orilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer						
Soll Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 9/10/96 Date Com	pleted: 9/10/96	Total Depth Drilled (ft.): 12						
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):							

Completion Information

	
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	<u> </u>	W	yar	dotte :	SWMUH		Log	of Boring SP	A80
	bgl)			•	PI	ID or FID (ppm)				Borehole Completion	÷
	Depth (feet bgl)	Blow Counts	Sample	Recovery (x)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Ρ						Clay brown with some siag gravel.	CL	- o - o -		1
	-					,	Clay light brown with silt.	CL	777		-
							Cedar peat.)			
	-2		90)% !			Clay light brown with silt, some sand and gravel.	CL		•	1
					2		Slag Gravel black.	GW	300	•	
							Clay light brown, sand with some gravel. Noist.	CL]
	4		-				No recovery.				4
					100		Siag Gravel black with sand. Saturated.	GP			
	-								وممن		1
	- 6		25	% 			No recovery.				-
	-8		_				Slag Gravel black (possibly sluff)	GW	000		-
	-10		20)% 	1000+		Sand grey-brown, fine grained, well sorted silty. Saturated. Heavy sheen on water.	SM			-
	- ⊣2						No recovery.				
-	-						End at boring.				f
	- ⊣ 4									_	
	- -16 ∮						·				-
	-										1
	-18 -										
ļ	-20			İ			,				

Log of Boring SP08B

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF					
Drilling Company: Environmental Science					
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer			
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (In.): 2"			
Date Started: 9/10/96 Date Comp	oleted: 9/10/96	Total Depth Drilled (ft.): 12			
Apparent Depth to Saturation While Dri	illing (ft. bgl): 5.2	Ground Elevation (ft.):			

Completion Information

	,
	la. te a beneralis inte
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip
Torout Interval (it. bgi). O iz	jordat rype: Dentonite only

NO WELL INSTALLED

В	AS	F	W	ya	ndotte	SWMUH		Log	of Boring SP	08E
(B)				F	ID or FID (ppm)				Borehole Completion	
Depth (feet bgl)	Blow	Counts	Secovery (x)	1 97	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft,)
6		T	1			Clay dark brown with some slag gravel.				•
}				Ì		Cobbles limestone with some clay.	GC	0000		
ļ .				l		Siag Gravel black and clay.	GC	2007		
-2		e	0 %	200		Clay dark grey, and gravel, and sand. Hoist.	CL	0-0-		
-						No recovery.				
-4			1			Clay light grey, very plastic. (settled waste fines?)	СН			
-6 -		9	0%	1000	•	Siag Grave l black. Saturared.	GW	000000		
	l		ł	000	+	Peat	PT	7373	ł	
8		\vdash	╄		į	Na recovery.	PT	123		
				000	1	Peat			· [
						Clay grey, plastic.	CL			
H0		5	0%	000-		Sand brown, fine grained, well sorted, silty. Compact (Saturated?)	SM			
-					}	No recovery.				
-1 2						End of boring.				
-										
-14										
-16										
.										
-18										
-20										

Log of Boring SP09A

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Scient	Drilling Company: Environmental Science and Engineering, Inc.						
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer					
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 9/10/96 Date Comp	oleted: 9/10/96	Total Depth Drilled (ft.): 16					
Apparent Depth to Saturation While Dr	Apparent Depth to Saturation While Drilling (ft. bgl): 4						

Completion Information

Grout Interval (ft. bgl): 0-16	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	= 1	W;	yan	dotte	SWMUH	,	Log	of Boring SP	A80
	5g()				PI	(D or FID (ppm)				Borehole Completion	-
-0	Depth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS	Lithologic Log		Elevation (ft.)
							Clay brown to dark brown, sliff, with some slag gravel.	CL			_
-2			80	*			Clay dark grey with line grained sand, limestone cobbles, brick.	CL	0-0-0		-
4	- [¥	╝	30		Slag Gravel black with some clay.	GC	-0-0)
			Î	۱	160		No recovery	СН			
-				-		 	Clay dark grey, very palstic.				-
-B			10								-
-12 -			02				Na recovery			-	-
H4			30	- [000+		Clay black to dark grey, sloppy with some gravel. SAMPLE TAKEN.	СН			-
 16			_\				No recovery.				-
- 18											4
-20	,										-

Log of Boring SP09C

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer	
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/10/96 Date Comp	Total Depth Drilled (ft.): 12	
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASI	= W	yar	ndotte :	SWMUH		Log	of Boring SP	08C
bgd)			P	ID or FID (ppm)				Borehole Completion	3
Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
					Clay orange-brown, mottled, roots & top.	CL			
-2		80%			Clay tan and dark brown cobbles and coarse sand.	CL			
}			400	}	Slag Gravel black ,oily. Moist @ 3'.	GW	~°~		
1					No recovery				
F4 -					Slag Gravel black as above.		000000 000000		
-6		50%	200		Sand dark brown, fine grained, well sorted, silty. Compact.	SM			•
-8		50%			No recovery. (1° sluff)		-		
			60		Clay dark grey-green with roots. Plastic.	СН			-
-12		₩	200		Sand brown, fine grained, well sorted, silty. Compact.	SM			-
-					End of boring.			-	
H4					·				•
-16									
-							-		
-18 -					•				-
-20		!							•

Log of Boring SP10A

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scient	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/9/96 Date Comp	oleted: 9/9/96	Total Depth Drilled (ft.): 16
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite chip

NO WELL INSTALLED

		T			dotte :		1		of Boring Si]
Depth (feet bgl)	Blow	Samole	Recovery (%)		(ppm) Profile	Soli/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Elevation (ft.)
-O -						Clay brown, with some coarse sand and gravel. Trace roots. Compact.	CL			
-2		6	0%	0/0		Clay brown and grange, mottled.	CL GW	0 6 0		
-						Linestone Cobbles wet in tube end. No recovery				
-4		-	*	148/ 600		Clay brown, mixed with black slag gravel.	CL			
ф ф		**	55% 			No recovery				
1 0		()% 			no record y				
12			*						_	
14		5	0%							
				186/ 1000+		Sedment black sloppy with some slag gravel.	СН			
-16		-	<u>\dagger</u>	108/ 1000+		Sand grey-brown, fine grained, well sorted, sitly. Saturated. End of boring.	SW			
-18										
-2∩										

Log of Boring SP10B

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF				
Drilling Company: Environmental Science	ce and Engineering, Inc.			
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer		
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"		
Date Started: 9/9/96 Date Comp	oleted: 9/9/96	Total Depth Drilled (ft.): 16		
Apparent Depth to Saturation While Dr	Apparent Depth to Saturation While Drilling (ft. bgl): 2			

Completion Information

Grout Interval (ft. bgl): 0-16 .	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	- W	yar	dotte S	SWMUH		Log	of Boring SP	
	eet bg()		8		(D or FID	Soil/Rock Description and	lon		Borehole Completion	(41.)
	Oepth (feet bgl)	Blow Counts	Sample Recovery	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Clay brown with some coarse grained sand and gravel. Compact. Trace slag	CL			1
	-2		80%			Linestone cobbles with some interstitial clay.	GC	00 00 00 00		
				0/ 600		Clay grey and black, mottled, plastic.	СН			
	- 4		1] 	No recovery.				1
:	-6		50%	48/ 600		Clay grey and brown, mottled, with a trace of cobbles and gravel. Plastic.	СН	0-0-0		4
	- -8 -		 - 							4
	-10 - -12		10%			No recovery. (Probably sloppy black sediment)			·	+
	- -14 -		75%	127/ 900		Sediment black sloppy	СН			
	-1 6			108/ 600		Sand grey-brown, fine grained, well sorted, silty. Saturated. End of boring.	SM			
	- 1 8									7
	-20								·	-

Log of Boring SP10C

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scien	ce and Engineering, Inc	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 9/9/96 Date Com	Total Depth Drilled (ft.): 16	
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-16	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	- W	yar	dotte s	SWMUH		Log	of Boring Sf	P10C
	(feet bgi)		(3)	-	D or FID (ppm)	Soil/Rock Description and	lo		Borehole Completion	1 (11.)
	O Depth (Blow Counts	Sample	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Clay brown with some slag gravel. Compact.				
	-5		30%			Linestone Cobbled white.	GW	0000		1
	-4					No recovery.				
	· -6		50%	51/ 900		Clay brown-grey and orange, mottled. Very plastic.	СН			
	0			87/ 1000+		Siag Gravel black, some coarse grained sand. Saturated. Oily sheen. SAMPLE TAKEN.	GP)	٥٠٥		1
192	-					No recovery.				1
	-B		1	262/ 1000+		Siag Gravel Saturated. (Possible sluff)	GW	000 000 000 000 000		4
	1 0		75%			Black Coaly Naterial	РТ		•	
						Clay green-grey, plastic.	СН			
	1 2		_ <u></u>			No recovery.				1
}				3/ 50		Clay green-brown, plastic	СН		-	1
ŀ	-14		20%			Sand grey-brown, fine grained, well sorted, silty.	SM		j	-
}	.					No recovery.				
ł	16		_\			End of boring.		J		
-	18									
	20									1
r	20	ı	1	i	ľ					•

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scient	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/29/96 Date Comp	oleted: 8/29/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

į	BASF Wyandotte SWMUH Log of Boring TPO									TPO1	
	(BC				PI	D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts		Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
							Clay light brown with fine grained sand, silt, and some gravel.	CL			
	- 2		95	×	0.0		Clay dark grey to black, sandy with Amestone cobbles.	CL			
	-						Clay grey with sand and some gravel.	CL	0-0-		-
	-4		X		4.5		Gravel black with slag, some clay, and silt. Saturated @ 3.5°.	GP	2820 2820 2820 2820		
	-6		25:	٤			No recovery.				-
	8		7	1	260		Gravel black as above with an oily sheen. Saturated.	GP	<u> </u>		1
					ŀ		Clay grey, (pure) plastic.	СН			
	1 0		50:				Sand light grey-brown, fine grained, well sorted, silty. Saturated.	SM			
							No recovery.				
	72			7			End of Boring			_]
	-14						·			•	1
	1 6										
	18										
-	-20										

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scient	ce and Engineering, Inc.	_
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/29/96 Date Comp	Total Depth Drilled (ft.): 12	
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

	,
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring TPO:									P02
	(igc			P	(D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-0		1		· · · · · · · · · · · · · · · · · · ·	Clay brown with sand and trace gravel.	CL			1
	-					Clay light grey, sandy with some gravel and sit.	CL	0-0-		-
- 1	-2		 75%	0.0		Gravel black with clay and sand.	GP			
	-			12/		Clay light grey with some sand and gravel.	CL SP			
	•			20		Sand dark grey, fine grained with gravel. Saturated.	32			4
I				1		No recovery.				
	-4 -6		50%	25/ 40		Gravel dark grey with sand, silt, some clay, and white material. Saturated.	GP	2000 2000 2000 2000 2000 2000		4
	-8			40.4		Na recovery.		-0-0		
				40/ 1000		Gravel as above. Saturated.		0608		
ŀ	•					Clay light grey and plastic.	СН			- 1
ŀ	1 0		50%	20		Sand light brown, fine grained, well sorted, and silty. Saturated.	SM			4
						Na recovery.				
Ī	12					End of Boring.				1
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H	14					·				
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BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/29/96 Date Comp	Total Depth Drilled (ft.): 12	
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring TP03								P03	
	(JBQ			PI	(D or FID (ppm)				Borehole Completion	
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	, ,	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	_					Clay light brown with fine grained sand, silt, and some gravel.	CL			}
	-2		90%			Clay dark grey to black, sandy with Amestone cobbles.	CL			
	-					Clay grey with sand and some gravel.	CL			-{
	-4		50%			Sravel black with slag, some clay, and silt. Saturated 2 3.5'.	GP			
			-			No recovery.		·		
	₽		1			Gravel black as above with an oily sheen. Saturated.	GP	20,00		1
ŀ						F≣ grey, (pure) plastic. Clay liner 8 8.5°.	СН			4
	-10		25%	50.0		Gravel black with slag, some clay, and silt. Saturated.	GP	0000		1
	•					No recovery.				
Ì	12	Ì				End of Boring.				1
}										4
$\frac{1}{2}$	14									-
}										4
	16									
•	18									1
-	20									

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/29/96 Date Comp	Total Depth Drilled (ft.): 16	
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):	

Completion Information

	
Grout Interval (ft. bgl): 0-16	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring TP04									P04
	(j.6q			PI	D or FID (ppm)				Borehole Completion	1.3
	O Depth (feet bgi)	Blow Counts	Sample Recovery (X)	•	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	- 0		1			Sand light brown, fine grained, silty with clay and roots.	SM			
	-2 -2		85%			Ctay brown with some gravel, trace sand, and organic material.	CL			-
						DBO tan with sand.	CL SW	× × ×		
ŀ	-4		- ¥-			Sand tan to light brown, indurated.	<u> </u>	× × ×		1
1						No recovery.		× × ×		,
	- ф . ф . — С		90%	0.0 <i>/</i> 200		DBO white. Plastic & 6.5'.	CL	X X X X X X X X X X X X X X X X X X X		
ŀ	12		*	0.0/		Clay black to dark brown.	CL			1
-				300		-	<u> </u>		-]
-	14		25%			No recovery.				
+	16	ŀ	*			End of Boring.				4
	18									
F	20									+

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		·				
Drilling Company: Environmental Science and Engineering, Inc.						
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer				
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"				
Date Started: 9/3/96 Date Comp	Total Depth Drilled (ft.): 12					
Apparent Depth to Saturation While Dri	Ground Elevation (ft.):					

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

:	BASF Wyandotte SWMUH Log of Boring TP05							P05		
	eet bgi)		(%)		D or FID (ppm)	Soil/Rock Description and	uo		Borehole Completion	(ft.)
	O Depth (feet bgl)	Blow Counts			Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2		65%			Clay grey-brown, sandy with some gravel and dark debris.	CL	0-0-0		
				20		Linestone Cobbles Saturated.	GW	0%0,		4
						No recovery.				
	- 4		1	200		Gravel black and dark green with cobbles and sand. Saturated.	GW	000		1
	- -6		40%	>1000		Sand grey, coarse grained with clay (DBO?). Plastic.	sc			-
	-					Na recovery.				-
	-8		*	>100q		DBO white.	CL	× × ×		1
	- - 10		20%	>1000		Sand light brown and black, laminated, fine grained, well sorted with silt. Saturated.	SM			4
						No recovery.				4
ſ	1 2				:	End of Boring.				1
}	•								_	-
	-14								j	1
-										4
	1 6									}
	Ü]
ŀ	.				j					1
	1 8									
-	-20									1

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer					
Soll Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 9/4/96 Date Com	Total Depth Drilled (ft.): 16						
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-16	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	- W	yar	dotte 9	SWMUH		Lo	g of Boring T	P08
	Depth (feet bgi)	Blow Counts	ample ecovery (%)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0 -2	80	60%			Clay brown with sand, silt, and some gravef.	CL			-
	2		1			Clay grey-brown with some graveL	CL			1
						Slag Gravel black with sand. Saturated.	GW	0.00		
						<u></u>				1
	-4					No recovery.				
	-			1.0/ 80		Siag Gravel black as above.	GW	000		
	6		50%	0.0/		Clay brown, plastic with some gravel.	СН	-0-0-		
ı				40		Sand black, fine grained, well sorted, and sity. Saturated.	SM			- 1
	8		0%			No recovery.				-
1	12			28/ >1000 >1000		Clay black, plastic with sand and slag.	CL		-	-
}	14	1	40%			Sand light brown, fine grained, well sorted, and silty. Saturated.	SM			1
-						No recovery.				1
-	16		*			End of Boring.				
	8									
-	20			İ						1

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scien	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/30/96 Date Com	oleted: 8/30/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Dr	illing (ft. bgl): 3.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASF	- h	lya	ndotte S	SWMUH	•	Log	of Boring TS	P05
bgľ)			f	ID or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow Counts	Sample Decovery (*)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-2		75%			Clay brown, dry with some sand, traces of gravel, slag, and brick, unconsolidated. Moist to wet @ 3.5°.	CL		·	-
Ψ . φ		10%	0.0		Gravel & Sand tan. Saturated. Refusal & 6° may be drain pipe.	GP	0000		
В				}	No recovery. End of Boring.				-
-									-
- 10		:							
-12								_	-
-14									
- 16									
. 18									
-20									

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Science	ce and Engineering, Inc.		
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer	
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"	
Date Started: 8/30/96 Date Comp	oleted: 8/30/96	Total Depth Drilled (ft.): 8	
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):		

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

 Explanation & Comments	
	-

BASF Wyandotte SWMUH Log of Boring TSP06									
Depth (feet bgl)	Blow Counts	mple covery (X)		ID or FID (ppm) Profile	Soli/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-0 2 4	Co	25%	>1		Clay brown, dry, some sand, trace to some limestone gravel, unconsolidated.	ກ ອີກ	LUCATION	·	3
6		50%	0		Sand brown, fine to medium grained. Gravel black with slight odor, and trace coal. Refusal @ ?' (rock in nose of punch).	SW	000		
8		_			No recovery. End of Boring.				4
10									
12								-	
14									1
18									

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Scient	ce and Engineering, Inc.		
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer	
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"	
Date Started: 8/30/96 Date Comp	Total Depth Drilled (ft.): 12		
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):		

Completion Information

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Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip	

NO WELL INSTALLED

В	ASF	- W	yar	ndotte S	SWMUH		Log	of Boring TS	P07
O Depth (feet bgl)	Blow	Sample Becovery (%)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
2 2		80%			Clay brown, dry, trace gravel and sand.	CL			
-4		*	0/0		Sand brown/orange, fine to medium grained, becomes silty with depth.	SM			-
-6		45%	0/70		Wood Chips black with a strong odor.	PΤ		·	
-8		+	0/30		Clay greyish-brown, native with trace peat, soft.	CL			
-10		0%			Drillers indicated soft material.				-
-1 2		_¥_			End of Boring.	l		-	1
-14									
1 6									4
- 1 8									4
-20									-

BASF Wyandotte SWMUH

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Scient	ce and Engineering, Inc	•	
Drilling Rig: Keck (TM) Soil Punch	**************************************	Drilling Method: Hydraulic Hammer	
Soli Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"	
Date Started: 8/30/96 Date Comp	Total Depth Drilled (ft.): 8		
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):		

Completion Information

		
Grout Interval (ft. bgl): 0-8	Grout T	Type: Bentonite chip

NO WELL INSTALLED

·	В	ASF	= h	lyar	ndotte S	SWMUH		Log	of Boring TS	P08
	Oepth (feet bgl)	Blow Counts	Sample Decovery (*)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-2		50%	0/0			CL			
	-4		*	D/200			CL	X		
	ф . ф	•	1003			DBO End of Boring.		X		4
	- -10					End of Borning.				
	-12 -					•			_	
	-14 -									
	-16									
	-18									
t	-20									1

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scien	ce and Engineering, Inc	•
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/30/96 Date Com	Total Depth Drilled (ft.): 8	
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	= W	yan	dotte S	SWMUH		Log	of Boring TS	P09
	Depth (feet bgl)	Blow Counts	ple overv (%)	97	D or FID (ppm)	Soll/Rock Description and Comments	Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	. ->	Cour	Sam				8 8	CO CLIM		ă .
	-2 		100%	3.4/ 400		Industrial FIE dark brown. Noist.	GW	1,000000000000		-
	-4		*	2.6/ 500		DBO greyish-while, turned black @ 4'.	CL	<pre></pre>		
	6		5%			Refusal.		j		
	 8		<u> </u>			End of Boring.	<u>L</u>	J		-
	10							•		4
	12									-
-	14									
-	18									
	20									

BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scien	nce and Engineering, Inc	·
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/30/96 Date Com	pleted: 8/30/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While D	rilling (ft bgi): 3.0	Ground Elevation (ft.):

Completion Information

. 1		
-	Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte SWMUH Log of Boring TSP10								SP10	
	(JBq				PI	D or FID (ppm)			Borehole Completion	2
	O Depth (feet bgl)	Blow Counts		Recovery (X)	Values	Profile	Soil/Rock Description and Comments SUSSI	Lithologic Log		Elevation (ft.)
	-							100000 10000 10000		
	-2		100	×				^x^x^ x x x		4
			1	ł			DBO with trace gravel. CL	××		
	•						Clay black and silty.	× × × × × ×		1
	.]]	1	-		DBO with trace gravel. Saturated.	× × ×		
	-4		_				DBO black with gravel. Near refusal 8 4'. End of Boring.			
	-6									
The second	В]
	10									
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BASF Wyandotte SWMUH 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scien	ce and Engineering, Inc	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/30/96 Date Com	pleted: 8/30/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Dr	illing (ft. bgl): 3.8	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF		W	yan	dotte S	SWMUH		Lo	g of Boring T	SP11
	(jbq				PI	D or FID (ppm)				Borehole Completion	-
	Depth (feet bgl)	Blow Counts		Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
-							Industrial FIII trace brick, and gravel.	GW	0000		
-2	2		100	2%	0		Sand blueish grey, fine grained, silty with clay.	SM			-
ŀ					>1000)	DBO greyish white with trace gravel.	CL	<u> </u>		-
-4	4				'>100¢		DBO turns black and has more gravel. Grades to gravel. Saturated.	CL	^		
[a a		100	18			Gravel black, medium grained with some sand. Saturated.	GW			
_ `					0/200		Sand pinkish-grey, medium grained, and hard pack. Moist. Not saturated as above.	SW			
- H	3 10		вс	, ,			Sand black.	SW			
+							Sand greyish-brown, fine-medium grained, silty with some greenish-grey clay. Wet.	SM			-
+	2		1				Sand silty with lots of peat. Wet. End of Boring.	SM			
-	4										-
1	6										
	8										• •
-2	20										-

Soil Boring Logs for AOC 2

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	с.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 6
Apparent Depth to Saturation While Drilling (ft. bgl): 4.5	Ground Elevation (ft.):

Completion Information

	,
Grout Interval (ft. bgl): 0-6	Grout Type: Bentonite Chips

NO WELL INSTALLED

	ASI	T			D or FID	AOC2 Grain Size Analysis	γ		og of Boring S	300
eet bgl)	Blow	2000	Recovery (%)		(ppm) Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
						Topsoli	CL			
-2				0.0/ 0.0		FE with clay, sand, gravel, cinders, ash, and brick. Dry.				
_				0.0/ 0.0		FM same as above. Moist.				
-4	-			0.0/ 0.0		FU same as above. Saturated @ 4.5°.				
6				0.0		End of Boring				
8										
10										
12					,					
14									_	
16										
18						•				
20										

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 6
Apparent Depth to Saturation While Drilling (ft. bgl): 4.5	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-6	Grout Type: Bentonite Chips

NO WELL INSTALLED

В	BASF Wyandotte AOC2 Grain Size Analysis Log of Boring SB02								
pol)			PI	O or FIO (ppm)				Borehole Completion	-
O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-2			0.0/ 0.0 0.0/ 0.0/		Topsoil Fill with clay, limestone gravet, cinders, brick, a little sand.	CL			
4			0.0/ 0.0		FM same as above. Saturated @ 4.5°. End of Boring				
- 8									-
-10 -									-
⊣ 2									-
-14									
⊣6									1
±8 - -20									1

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 10
Apparent Depth to Saturation While Drilling (ft. bgl): 9	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-10	Grout Type: Bentonite Chips

NO WELL INSTALLED

	В	ASF	- W	yan	dotte A	AOC2 Grain Size Analysis		Lo	g of Boring S	воз
	Depth (feet bgl)	Blow Counts	Sample Recovery (X)		O or FIO (ppm) Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0		<u> </u>			Topsol	CL	0-0-		4
	-2			0.0/ 0.0		Fill with sand, gravel, cinders, ash, and brick. Dry.				1
	-4			0.0/ 0.0						
	-6			0.0/ 0.0		FIII clay, sand, gravel, cinder, brick and ash. Moist.				-
	-В			0.0/ 0.0						4
	- - 10			0.0/ 0.0		FII same as above. Saturated @ 9°.				4
	-					End of Boring				_
	-12 -								-	4
	1 4									
	- ⊣6									
 	⊣8									
	-20									

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 6
Apparent Depth to Saturation While Drilling (ft. bgl): 6	Ground Elevation (ft.):

Completion Information

1		
	Grout Interval (ft. bgl): 0-6	Grout Type: Bentonite Chips

NO WELL INSTALLED

В.	ASI	= W			OC2 Grain Size Analysis		Lo	of Boring S	BC
ğ			P	(D or FID				Borehole Completion	.
O Depth (feet bgi)	Blow Counts	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		
U					Topsol	CL			
2			0.0/		Fill with sand, limestone gravel, brick, cinder, and ash. Dry.				
4			0.0/		DBO yellow-white. Hoist.	CL	X		
6					DBO white. Saturated @ 6".	CF	^ x ^ x ^ x x x x x x x x x		
					End of Boring				
3									
10									
2									
									ĺ
Ì									
4		!							
		,							
6									
								!	
8									
20									

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Sci	ence and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined	Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/21/96 Date Co	ompleted: 8/21/96	Total Depth Drilled (ft.): 3
Apparent Depth to Saturation While	Drilling (ft. bgl): 2.9	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-3	Grout Type: Bentonite Chips

NO WELL INSTALLED

E	BAS	F	W	yan	dotte /	AOC2 Grain Size Analysis		Lc	og of Boring S	
(feet bgi)				PI	D or FID (ppm)	Soil/Rock Description	_		Borehole Completion	ft.)
Depth	ВІом	Sample	Recovery (X)	Values	Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
۴			_			Gravel	GW	V S	4	-
+						Concrete		V		-
-2				0.0/ 0.0		FI with sand and gravel. Salurated @ 2.9'.				-
						End of Boring			J	-
-4										-
-										-
6			1							
1										-
8)						
-					<u> </u>					_
H0										
1										1
-12										-
}			1						-	-
H4										4
H6					ı					-
+				1	I					-
-18			j							1
				į						
				ļ						1
20										1

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In	nc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/21/96 Date Completed: 8/21/96	Total Depth Drilled (ft.): 2.5
Apparent Depth to Saturation While Drilling (ft. bgl): 2.0	Ground Elevation (ft.):

Completion Information

	 	
Grout Interval (ft. bgl): 0-2.5	Grout Type: Bentonite Chips	- 1

NO WELL INSTALLED

	В	ASF	= W	yar	ndotte A	AOC2 Grain Size Analysis	- ,	Lo	g of Boring SE	
	Depth (feet bgl)		Sample Recovery (X)	P	(D or FID (ppm)		USCS		Borehole Completion	Elevation (ft.)
		Blow	Semp	0.0/		Asphalt FIE with clay, gravel, brick, cinders, and ash. Saturated @ 2'. End of Boring	Class			Ele
	- ⊣6									
***	-18 - -20				-					

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/21/96 Date Completed: 8/21/96	Total Depth Drilled (ft.): 6
Apparent Depth to Saturation While Drilling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

	······································
Grout Interval (ft. bgl): 0-6	Grout Type: Bentonite Chips

NO WELL INSTALLED

	BASF Wyandotte AOC2 Grain Size Analysis Log of Boring SB07								B07	
(joq	<u>. T</u>			PI	D or FID (ppm)				Borehole Completion	23
O Depth (feet bot)	Blow	Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Gravel	GW			
-2				0.0/ 0.0		Fill with clay, sand, DBO, gravel, and brick.				-
4				0.0/ 0.0		FM same as above with little cinder and ash. Saturated @ 5.5°.				-
-6				0.0/ 0.0		End of Boring				-
8						·				-
10						·				-
- H2										-
-									-	-
H4 -										
H6 -										-
H8 -										
-20			1							

BASF Wyandotte AOC2 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	2.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 2' Lined Steel Sampler	Borehole Diameter (in.): 2
Date Started: 8/21/96 Date Completed: 8/21/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 2	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite Chips

NO WELL INSTALLED

В	ASF	= W	yan	dotte A	AOC2 Grain Size Analysis		Lo	g of Boring S	B08
it begin		٠	P	D or FID (ppm)	Soil/Rock Description			Borehole Completion	(11.)
Depth (feet bg	Blow Counts	sample tecovery (X)	Values	Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
Ю	<u> </u>	0, 4			Gravel	GW)			1
-2			0.0/ 0.0		FII with clay, sand, gravel, little cinder, ash, and brick. Saturated @ 2'.				-
.					FM same as above with more gravel.				-
4					End of Boring		احلنط		1
-									4
-6									
上			Ì						1
					•				4
									1
1.0									
НО									1
<u> </u>								,	4
-1 2									4
								-	
									7
14									1
}									4
H6]
T									1
1 8					·				+
**									
-20				;					

Soil Boring Logs for AOC 4

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In	oc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 8/16/96 Date Completed: 8/16/96	Total Depth Drilled (ft.): 16
Apparent Depth to Saturation While Drilling (ft. bgl): 8.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite Chips

NO WELL INSTALLED

		Γ	_	PI	D or FID				Borehole	
Depth (feet bgi)	Blow		Recovery (X)		(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Elevation (ft.)
·0				0.0/ 0.0		Clay dark grey-brown with gravel and sand.	CL			
2		50)% 	21/50		Tar black, sandy.	РТ			
						No recovery.		!		
4			(-	73/ 110		Tar black with some sand.	РТ			
6		60	×			Tar black with sand and some gravel.	РТ			
В	,		,_			No recovery.				
0			ì			Tar black as above.	PT	THOTA		
10		50	ĺ	13.8/ 20		Sand light brown, fine grained, well sorted with roots. (I" brown clay on top of sand). Saturated, water rises in hole immediately on penetration.	SW			
:						No recovery.				
2			<u>'</u>				+		-	
14		95	×	0.0/ 280		Sand light brown as above.	SW			
6		_			! !	End of Boring				
18										

Log of Boring SP01-1

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4' Lined Steel Sampler

Date Started: 8/20/96 Date Completed: 8/20/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite Chips

NO WELL INSTALLED

В	ASI	= W	yan	dotte A	AOC4 Grain Size Analysis		Log	of Boring SP	01-1
Obpth (feet bgl)	Blow Counts	Sample Recovery (X)	-	D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-2			/ 10		Sravel F風 with coke & coal.	GW	50,00,00,00,00,00,00,00,00,00,00,00,00,0		
6			/0		Coke & Coal, Wet & 4'.				
-8 - -10 -			/ 10		Clay silty underlain by sand.	CL			4
-12 -14					End of Boring			-	
∓6 - - -				į					=
-20									

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/16/96 Date Completed: 8/16/96	Total Depth Drilled (ft.): 16
Apparent Depth to Saturation While Drilling (ft. bgl): 8.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite Chips

NO WELL INSTALLED

6				PI	D or FID (ppm)				Borehole Completion	
Depth (feet bgl)	Blow	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		
,						Clay brown, hard with gravel.	١			
				49.9/ 210		Tar black with sand.	PT			
2		40)% 	100/1		Clay green-brown mottled.	CL			
						No recovery.				
ļ		H				Clay as above.	CL			
				203/ 210		Tar black with graveL	PT			
•		40) %			No recovery.				
		-	\vdash	3.5/ 31		Sand dark brown with organic material.	SW			
				0.6/ 0.0		Sand grey-brown, fine grained, well sorted with occassional root. Saturated.	SW			
0		60	*			No recovery.				
2	:		<u>, </u>							
4		90	*	3.5/		Sand light grey-brown, fine grained, well sorted with sit. Saturated.	SM			
3		₩	4			End of Boring	1			
3										

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engine	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampl	er Borehole Diameter (in.): 2"
Date Started: 8/16/96 Date Completed: 8/16/9	6 Total Depth Drilled (ft.): 16
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite Chips

NO WELL INSTALLED

ا ۾		P	ID or FID (ppm)				Borehole	
Depth (feet bgi)	Sample Seconds (*)		Profile	Soil/Rock Description and Comments	USCS	Lithologic Log	Completion	
				Clay dark brown with gravel and some sand.	CL	0-0-		
	50%	143/ 160 138/		Tar black with sand and gravel	PT			
		130		Clay brown with coarse grained sand. Noist. No recovery.	7 (5)			
		203/ 200		Tar black.	PT		,	
	50%	16/ 120		Gravel black, tarry with sand and gravel. No recovery.	GW			
	+	1.2/		Gravel black as above. Sand brown, fine grained, well sorted, and sitty.	GW SM			
)	30%			No recovery.				
	*	0.0/ 20		Sand brown, fine grained, well sorted, silty with roots as above.	SM		-	
l I	5%			No reco ve ry.				
				End of Boring				

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineeri	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 16
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite Chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	AOC4 Grain Size Analysis		Log	of Boring SPC	03-1
) (JBq			P	ID or FID (ppm)				Borehole Completion	-
	OBpth (feet bgl)	Blow Counts	Sample Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS	Lithologic Log		Elevation (ft.)
	-2			/0		Fil				
	e e			/ 11		D80	CL	X		
	₽ ₽			<i>7</i> II		Coke & Coal Slag wet @ 4'.	PT			
-	10			/ 30		Sand/Gravel Fil l Saturated.	GW			
	14			/ 35		Sand olive brown, fine grained with root material.	SW		~-	
-	16					End of Boring				
-	20									

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF				
Drilling Company: Environmental Science and Engineering, Inc.	2.			
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer			
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"			
Date Started: 8/16/96 Date Completed: 8/16/96	Total Depth Drilled (ft.): 16			
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):			

Completion Information

ŀ	F		
	Grout Interval (ft. bgl): 0-16	Grout Type:	Bentonite Chips

NO WELL INSTALLED

	BASF Wyandotte AOC4 Grain Size Analysis Log of Boring SP								P04	
	Depth (feet bgl)	Blow	Sample Becovery (%)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0 - -2 -		90%			Clay dark grey-brown with sand, gravel, and cobbles.	CL			
ŀ	-4		*	1.2/8	i i	Tar black with sand and gravel.	PT			4
İ			Ī			Sand tan and DBO with some gravel, plastic. Saturated.	sc			
	-6		80%	0.3/		Gravel black with some sand and possible tar mix.	GW			+
	-8					No recovery.				
	· ·			0.0/ 20		Sand brown, fine grained, well sorted, and silty. Saturated.	SM			
-	-10		10%			No recovery.				-
	12		50%			Sand as above.	SM			
						No recovery.				
+	16		<u> </u>			End of Boring				1
•	- 18									
-	20				ļ					1

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soli Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 8/16/96 Date Completed: 8/16/96	Total Depth Drilled (ft.): 12						
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):						

Completion Information

	Y
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips

NO WELL INSTALLED

	В	ASF	- W	yan	dotte A	Log of Boring SP05					
׎.	t bgl)				O or FID (ppm)	Soil/Rock Description			Borehole Completion	ft.)	
	Oepth (feet bgl)	Blow Counts	Sample Recovery (X)		Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)	
			Î			Clay dark grey-brown with gravel.	CL				
	-					Gravel tan with clay.	GC	50,50		4	
	-2		60%	0.0		Gravel dark red-brown and black with cobbles, sand, and clay. Possible tar staining.	O,	0000		-	
	_ _a					No recovery.					
	-6		100%			Clay brown and orange mottled with some gravel. Plastic @ 5'.	СН				
	- -8		\ \ *	0.0		Clinker Gravel black with sand and possible tar mix. Saturated.	GW			-	
	-			3.8		SIt dark brown with sand and peat. Moist.	ML			1	
	- 10		25%	0.0		Sand green-brown, fine grained, well sorted, and silty. (Laminated). Saturated.	SM	20,000.00		-	
	-					No recovery.				-	
	-1 2 -		•			End of Boring			· -		
	- 14					•				-	
	1 6									4	
審	-18					-				-	
-	-20									-	

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science and	d Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Ste	eel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/19/96 Date Completed	i: <i>8/19/96</i>	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling	(ft. bgl): 6	Ground Elevation (ft.):

Completion Information

	<u></u>	_
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips	

NO WELL INSTALLED

В	ASF	W	yan	dotte A	AOC4 Grain Size Analysis		Lo	g of Boring S	POE
(jbq			PI	(D or FID (ppm)				Borehole Completion	3
Obpth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
- -2 -		50%			Gravel FR underlain by coke & coal fines.	GW	00000000000000000000000000000000000000		
Y - 6 -			0/0		Coke & Coal Fill mixed with gravel. Water & 6'.	РТ			
- 8					Peat	PT			
⊣o -			0/0		Sand brown-greyish brown, fine grained, no odor, and silty. Saturated.	SM			
-1 2					End of Boring			-	
-14					·				
16									
18									
-20									

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	ı, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/19/96 Date Completed: 8/19/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 4.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips

Ex	pla	na	tion	2	Co	mm	en	ıts

В	ASI	= W	yar	dotte A	AOC4 Grain Size Analysis		Lo	g of Boring S	P07
Depth (feet bgl)	Blow	Sample Secovery (%)		(D or FID (ppm) Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
_	<u> </u>	0, 1			Sand	SW			-
-2 - -4			0/0		Coke & Coal Slag no odor. Hoist.				-
-6			0.3/0		Het € 4.5°.	PT			-
8									-
-10					Cake & Coal Fill with some gravel.	PT			-
- 1 2					Sand very line grained, silty, no odor with organic material (roots) throughout. End of Boring	SM			-
-14								-	-
- ⊣6							•		
-18				·.					1
-20									1

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF						
Drilling Company: Environmental Science and Engineering, Inc.						
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer					
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 8/19/96 Date Completed: 8/19/96	Total Depth Drilled (ft.): 12					
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):					

Completion Information

Н	Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·

NO WELL INSTALLED

В	ASI	= W	yar	dotte A	AOC4 Grain Size Analysis		Lo	g of Boring S	809s
Depth (feet bgl)	Blow	Sample Recovery (X)	-	(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
O . 4 . 6 . 8			0/0 29/0		Coke & Coal Fill with gravel and some clay fill. Wet @ 5'.	ΡŢ			-
- -10			0/0		Coke & Coal Fill	РΤ			
-1 2		-			Sand olive brown, very fine grained. Saturated. End of Boring	SW		_	
-14									7
1 6									-
1 8 -20					•				

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/19/96 Date Completed: 8/19/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

. 1		
i	Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips

NO WELL INSTALLED

	BASF Wyandotte AOC4 Grain Size Analysis					Log of Boring SP09					
	feet bgl)		8	•	D or FID (ppm)	Soil/Rock Description and	ion		Borehole Completion) (ft.)	
	O Depth (feet bgl)	Blow Counts	Sample Recovery	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)	
1 1	2			0/0		Coke & Coal FII with strong tarry odor © 6°. Sheen on water © 5-6°.	PΤ				
+	3			129/ >10		Sand blackish, fine grained.	SW			4	
1				36/ >10		Peat underlain by a thin clay layer and fine grained sand. Stong hydrocarbon odor.	PT				
1						End af Boring				-	
 										4	
7									·		

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF					
Drilling Company: Environmental Science and Engineering, Inc.					
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer				
Soil Sampling Device: 4' Lined Steel Sample	Borehole Diameter (in.): 2"				
Date Started: 8/19/96 Date Completed: 8/19/96	Total Depth Drilled (ft.): 12				
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):				

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips
O Out Interval (it. bgl). O iz	Toront Type, Demonite onips

NO WELL INSTALLED

	BASF Wyandotte AOC4 Grain Size Analysis					Log of Boring SP10					
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	•	(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)	
	-2			0/0		Coke & Coal Fil			·		
	-4 - -6		9	299/ >10		Underlain by 8° of peat. Very strong tar odor, ¥et @ 5°.	PT			+ +	
-1	-8 - -10 -		30%	70/ >10		Sand olive brown, fine grained with a strong hydrocarbon odor.	SW				
	-12 - -14 -					End of Boring				-	
	-16 -										
	-20										

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF					
Drilling Company: Environmental Science and Engineering, Inc.					
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer				
Soil Sampling Device: 4' Lined Steel Sample	r Borehole Diameter (in.): 2"				
Date Started: 8/19/96 Date Completed: 8/19/96	Total Depth Drilled (ft.): 8				
Apparent Depth to Saturation While Drilling (ft. bgl):	4 Ground Elevation (ft.):				

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite Chips

NO WELL INSTALLED

;	BASF Wyandotte AOC4 Grain Si				dotte A	OC4 Grain Size Analysis	··	L	og of Boring	SP11
	et bgi)		8	PI	D or FID (ppm)	Soil/Rock Description			Borehole Completion	(ft.)
	Oepth (feet bgl)	Blow Counts	Sample Recovery ()	Values	Profile	and Comments	USCS Classification			Elevation (ft.)
	-2			0/0		Clay/Gravel Fill wet @ 4'.	GC			
	-6			462/		Clay FM black with a strong odor & 5.5-8°.	CL			
	-0 -			>10		DBO	CL	* * * * * * * * *		
	- 8					Sand & Gravel Fill probe refusal @ 8' on brick.	GW			
	- ⊣0 -					End of Boring				1
	-1 2								_	
	-14									
	⊣ 6									
	⊣ 8			:						
	-20									1

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF					
Drilling Company: Environmental Science and Engineering, Inc.					
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer				
Soil Sampling Device: 4' Lined Steel Sample	er Borehole Diameter (in.): 2"				
Date Started: 8/19/96 Date Completed: 8/19/9	6 Total Depth Drilled (ft.): 12				
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):				

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips

Explanat	ion	9	COI	ıme	n	U
	_					

	В	ASF	= W	yar	ndotte A	AOC4 Grain Size Analysis		L	og of Boring (SP12
	O Depth (feet bgl)	Blow Counts	Sample Recovery (%)	-	ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	2			0/0		Gravel with coke & coal fil.	GW	000000000000000000000000000000000000000		
-				259/ 2000		Coke & Coal Fill with hydrocarbon odor and sheen.	PT			
						DBO	ر ا	* * * * * * * * * * * *		1
				140/ 1500		DBO stained black. Sand on nose of sampler.	Ե	~		
H	2					End of Boring		~ × × × ×		
H	4									
T -	6									
	8									
-2	20									

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Orilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/19/96 Date Completed: 8/19/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite Chips

Explanation & Comments	
	

	В	ASF	- W	yar	dotte A	AOC4 Grain Size Analysis		Lo	og of Boring S	SP13
)	bgi)			P	(D or FID				Borehole Completion	-
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)	1 47	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	- -2 -			0/0		DBO with file.	CL			1
	-4					Tar inderlain by coke slag with a stong odor/sheen. Saturated.	PT	× × × × × × × × × × × × × × × × × × ×		-
	€					DBO No apparent staining.	CL			7
)	-8					End of Boring	,	* * * * * *		-
	- 10									4
	-1 2								_	
	-14									-
	⊣ 6									
	1 8 -									
	-50									1

BASF Wyandotte AOC4 Grain Size Analysis
1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite Chips

NO WELL INSTALLED

В	ASF	= W	yar	dotte A	AOC4 Grain Size Analysis		Lo	og of Boring S	SP14
pg()			Pi	ID or FID (ppm)				Borehole Completion	-
O Depth (feet bgl)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
					Surficial Naterial	CL			
-2					Tar	PT			
- - -					No recovery.		·		1
-4					Tar	РТ			1
- 6 -					Coke, Coal, & Gravel with a sheen and a strong odor. Wet 8 4'.	PT			
8					End of Boring				1
10					·				
H2			j						
"									
H4									
- 16									
-18									1
-20									

BASF Wyandotte AOC4 Grain Size Analysis

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ring, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	Borehole Diameter (in.): 2"
Date Started: 8/20/96 Date Completed: 8/20/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

	[
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite Chips
Older Tittel for tit. Dgiy. o iz	lologi lype. Delitolite olips

Exp	lanat	ion &	Comme	∋nts

В	ASI	= W	yar	dotte A	AOC4 Grain Size Analysis		Log	of Boring SP	14-1
O Depth (feet bgl)	Blow	Sample Recovery (X)		D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-2			/ 9.5		Gravel Fill with some coke and coal.	GW	\\ \o \o \o \o \o \o \o \o \o \o \o \o \		1
-6			/ 45		Coke & Coal FIII with hydrocarbon sheen on water. Water & 4'.	PT			
- - - -			/ 50		Sand and small gravel fill underlain by clive green sand. fine grained with root material, odor.	GW			
H2 - H4					End of Boring	_	Y 0 V 0	 ·	-
H6									-
18									4
-20									}

Log of Boring SG-003-A0C4-1

BASF

Wyandotte, Michigan Project Number: 4895-010

Client: BASF	
Drilling Company: Environmental Science & Engineering, Inc.	
Drilling Rig:	Drilling Method: GeoProbe
Soil Sampling Device: 4 inch acetate Liner/Shovel	Borehole Diameter (In.): 2
Date Started: 8/20/96 Date Completed: 8/20/69	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 7	Ground Elevation (ft.):

Completion Information

"". "" - "" - "" - "" - "" - "" - "" - 	
Grout Interval (ft. bgl):	Grant Type:
Grout Interval (it. Dgi).	Grout Type:

NO WELL INSTALLED

Explanation & Comments

This boring was installed to collect samples for chemical and physical analysis. The following analysis was performed on the tar only:

LA8:

ANALYTE:

TEC

moisture, compaction, strength

ATI

BTU value

Quanterra

VOC. semivolatiles, cyanide, metals

Location: 15' directly south of AOC4-SP03

В	ASF	Log of Boring SG-003-A0C4-1				
Depth (feet bgl)	Soll/Rock Description	USCS Clessification	Uthologic Log	Borehole Completion	Comments	Elevation (ft.)
P	Fig.		00000000			
-2			000000000000000000000000000000000000000			-
			000000000000000000000000000000000000000			
	Ter Only					_
6						-
-8	Finc/c black slag, saturated at 7.0' End of Boring		V V V V V V V V V V V V V V V V V V V			-
-10					·	

Environmental Science & Engineering, Inc.

Log of Boring SG-003-A0C4-2

BASF

Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Science & Engineering, Inc.			
Drilling Rig: Keck Soil Punch	Drilling Method: GeoProbe		
Soil Sampling Device: 4 inch acetate Liner/Shovel	Borehole Diameter (in.): 2		
Date Started: 8/20/96 Date Completed: 8/20/69	Total Depth Drilled (ft.): 4		
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):		

Completion Information

*
'ype:
•

NO WELL INSTALLED

Explanation & Comments

This boring was installed to collect samples for chemical and physical analysis. The following analysis was performed on the tar only:

LAB:

ANALYTE:

TEC

moisture, compaction, strength

ATI

BTU value

Quanterra

VOC, semivolatiles, cyanide, metals

Location: 28' west of SG-003-A0C4-01

BASF				Log of Boring SG-003-A0C4-2			
	Depth (feet bgl)	Soil/Rock Description	USCS Classification	Lithologic	Borehole Completion	Comments	Elevation (ft.)
	-0 ·	FM gravel, some tar		100000000000000000000000000000000000000			
		Ter		χ.0			
	-2						
	•						-
	-4	End of Boring	<u> </u>				
*	-6						

Environmental Science & Engineering, Inc.

Soil Boring Logs for AOC 6

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 7/16/96 Date Completed: 7/16/96	Total Depth Drilled (ft.): 12						
Apparent Depth to Saturation While Drilling (ft. bgl): 2	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite pellet

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SBC										
· ·	7		T		P	ID or FID (ppm)				Borehole Completion	-
	Oepth (feet bgl)	Blow	Samole	Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
				1			Top Soil black, organic, and slag.	CL	-0-0- e		
	- -2		5	0%			Industrial Fill cohesive. Saluraled.	GW	000000000000000000000000000000000000000		
	74 . 6 . 49 . 10		60	0%			Sand brick color, with gravel, trace coal & slag. Saturated.	۳.			
							DBO Saturated.	CL	\		4
	12						End of Boring	L	لثـد	-	1
}	14										
	16										
	18										
	20										

Log of Boring SB01A

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/16/96 Date Completed: 7/16/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite pellet

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	40C6		Log	of Boring SE	
	O Depth (feet bgl)	Blow Counts	Sample Recovery (%)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Barehole Completion	Elevation (ft.)
-	-2		80%	40 200		Top Sol black, slag, with orange brown fibrous material	CL			
	_					DBO white. Moist.	CL	X		
}	6		100%	0.0		Grave l coarse grained. Saturated.	, ,	00000000000000000000000000000000000000		-
-	,			0.0		Sand coarse grained with fine gravel	SW	6 6 6 6 6 6 6 6		
-	10		100%			DBO white. Noist.	CL	* <u>*</u> **	·	_
			\			Gravel fine with coarse grained sand. Trace asphalt fill material.	GW			-
	12					End of Boring	- 		-]
	14									.
	6									
7	8									

Log of Boring SB01B

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 7/16/96 Date Completed: 7/16/96	Total Depth Drilled (ft.): 10
Apparent Depth to Saturation While Drilling (ft. bgl): 2.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-10 Grout Type: Bentonite pellet

NO WELL INSTALLED

В	ASI	=	W	yar	ndotte /	4006		Log	of Boring SE	
,		Γ		P	ID or FID (ppm)				Borehole Completion	_
Oepth (feet bgl)	Blow Counts		Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	•	Elevation (ft.)
-2		85		0.0		Top Soll black, fine gravel, and coal cinders. Hoist.	CL			
				0.0		DBO brownish-white, soft and moist. Saturated @ 2.5'.	CL	* * * * * * * *]
Ψ		100)X	0.0		Gravel brown/black, coarse, with flecks of orange brick.	GW	0 600000000000000000000000000000000000		
-B - -10		100	٦%	0.0		Gravel grey, coarse brown sand, black fill, and orange flakes. Hit rock @ 10°.	GW			
- - -12						End of Boring	•			-
- -14 -										
-1 6										
-18 -20										

Log of Boring SB01C

BASF Wyandotte A0C6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	<i>c</i> .
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/16/96 Date Completed: 7/16/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 2.5	Ground Elevation (ft.):

Completion Information

<u></u>	
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite pellet

NO WELL INSTALLED

	В	ASF	= 1	N;	yan	dotte A	VOC6		Log	of Boring SE	301C
	Depth (feet bgl)	Blow Counts		Recovery (X)		D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	٩ . ٧		50				T op Soil black, very fine, coarse angular gravel, and bits of oxidized metal glass. Moist and noncompactable.	CL			1
	_1				>300		Sand black with silt and a "tar" like appearance.	SM			
	F F0		100	*	20.0		Silt grey with clay. Saturated.	ML			
							Sand brown, coarse.	SW	×_×_×		
	⊣ 2		\		0.0	į	DBO grey, coarse sand, and fine gravel. End of Boring.	CL	× × × × × × × × × × × × × × × × × × ×	_	
	-14										
	-16										
	1 8										
-	-20										-

Log of Boring SB01D

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 7/16/96 Date Completed: 7/16/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 2	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite pellet

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	NOC6		Log	of Boring SE	
A	(jbq			P	(D or FID				Borehole Completion	
	OBpth (feet bgl)	Blow Counts	Sample Recovery (%)	Values	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2		50%	0.0		Top Sol black, fine grained, slag, brick, and bits of metal. Saturated 0 2.	CL			
	-4 - -		40%	200		SIt grey with some clay. Slight "tar" like appearance.	ML			
)	8		\ \ \			No recovery.				
	- 10		0%							-
	-12 - -14					End of Boring			~	
	- -16									
	- -18									
1	-20									-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF					
Drilling Company: Environmental Science and Engineering, Inc.					
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer				
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"				
Date Started: 7/17/96 Date Completed: 7/17/96	Total Depth Drilled (ft.): 12				
Apparent Depth to Saturation While Drilling (ft. bgl): 2.5	Ground Elevation (ft.):				

Completion Information

	
Grout Interval (ft. bgl): 0-12	Grout Type: Hydrated Bentonite

NO WELL INSTALLED

В	ASI	= N	lyar	ndotte /	70C6		Lo	g of Boring S	P02
O Depth (feet bgl)	Blow	Sample Becovery (*)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-2		60%			Industrial FIII black with sand and gravel, fine grained, iron staining, and trace slag. Damp to wet near 2.5°	GP			
4 , 6		60%	>700		Clay black with fine grained sand, not compactable, strong odor, sulfur-like, and swampy. Saturated.	CL			
-			>700		Peat black, fibrous with a strong odor. Saturated,	PΤ			
₩ . 10		90%	>200		Sand brown, fine grained, well sorted. Saturated.	SW			
-12					End of Boring	<u> </u>		_	1
- -14 -									1
-16 -								-	4
- -									-
-20									1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	2.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/17/96 Date Completed: 7/17/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Orllling (ft. bgl): 3.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Hydrated Bentonite

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	/OC6		Lo	g of Boring S	РОЗ
養	(lgc			P	ID or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)	, +,	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	-	Elevation (ft.)
						Top Soil grey with grass surface, fine to coarse sand, dry.	CL			
	- 2 -		90%	0.0		Line Waste Fill grey, trace coal, slag, and brick. Dry.	CL	X		
	-4		*	0.0		Sand brown, fine to medium grained. Wet.	SW	777		
D	Ф		50%	>700		Peat black, fibrous, strong swampy sulfur-like odor. Saturated.	РΤ			
	10		100%	>700		Sit black with a tar-like appearance, very soft with a slight sheen. Saturated.	мн			,
	12					End of Boring			_	1
	-14									
	-16									
)	18									
-	-20								,	1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Soil Sampling Device: 4'Lined Stainless Steel Sampler

Date Started: 7/17/96

Date Completed: 7/17/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-11 Grout Type: Hydrated Bentonite

NO WELL INSTALLED

	В	ASI	= W	yar	ndotte A	40C6		Lo	g of Boring S	P04
	(lgo			P	ID or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-					Sand & Gravel brown-reddish, grass surface, iron staining with fines.	SP			
	 2 -		90%	75		FM black, appears to be like topsoil. Moist and compactable.	CL			-
	-4 -6		90%	20		Silt mottled grey and black with fine sand, moist to wet. Grades to grey. Saturated, very soft.	мн			4
8	8		*			DBO white, medium to coarse grained. Wet.	CL	x		
	-		100%			Grave l dark grey, fine to coarse grained. Saturated.	GW	00000		
	.					DBO same as above.	CL	^ × ^ × ^ × × × × × × ×		
	12					End of Boring				
	14									
	16									
*	18							-		
H	20	1	1						}	+

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineers	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/18/96 Date Completed: 7/18/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3	5 Ground Elevation (ft.):

Completion Information

Croud Tatornal (64 hall) 0-10	Crest Tunes Declarity object
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	ВА	ASF	=	W	yan	dotte A	70C6		Log	of Boring SPC)4-1
	(jō				P	D or FID (ppm)				Borehole Completion)
0	Uepth (feet bg!)	Blow Counts	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
							Industrial Fill with a grass surface	GW	00000 00000		-
-2			90	*	0.0		DBO and sand, fine grained with silt above it.	CL	* * * * * *		_
-							Sand reddish-orange with gravel and iron staining.	SW			-
4					9.9		Sand black, coarse grained with fine gravel.	SW	, , ,		-
6			100	0%	55		DBO Saturated.	CL	X X X X X X X X X X X X X X X X X X X		- -
8			20	,)%	9.0		Sand black, coarse grained with fine grained gravel. Grades to greyish-brown in color and less gravel. Saturated.	SW		·	-
H2				_			End of Boring			_	-
-14											
 16											
1 8											
-20											

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/17/96 Date Completed: 7/17/96	Total Depth Drilled (ft.): //
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

	······································
Grout Interval (ft. bgl): 0-11	Grout Type: Hydrated Bentonite

NO WELL INSTALLED

	В	ASF	=	W;	yan	dotte A	70C6		Log	of Boring SP	04A
	þgi)				PI	D or FID (ppm)				Borehole Completion	~
-0	Depth (feet bg!)	Blow	Sample	Recovery (X)	Values	Profile	Soli/Rock Description and Comments	USCS Classification			Elevation (ft.)
-2			90	`	20		Fill Sand & Gravel black-reddish, grass surface, unconsolidated, trace brick with iron staining.	SP			
					70		Topsol black, fine grained. Noist.	CL			
4			*		>200						-
8			90		120 200		SIt grey-black, mottled, wet, swampy odor, grades to black color very soft with tar-like appearance.	OL		-	-
-1 0	,		80	*			DBO whitish grey. End of Boring	CL	X		-
. +12										_	ا
14											-
⊣6											-
-18 -											-
-20											-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and En	gineering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sa	mpler Borehole Dlameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/	78/96 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. t	ogl): Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	Γ	Π	_ 		D or FID	40C6 T	T		of Boring SP	<u> </u>
et bgi)			5	-7.	(ppm)	Soil/Rock Description	_		Borehole Completion	1
Depth (feet bgl)	Blow Counts	Sample	Recovery (%)	Values	Profile	and Comments	USCS Classification	Lithologic Log		Flowering (44)
0		1	7			Clay brown with sand, sill, and gravel.	- CEL			
2		90	×			Clay grey and brown, mottled, with sand, silt, and occasional DBO fragments.	CL			
,		<u>_</u>	4	113		Coke black coaly. End of Boring	PT			
3							1 .			
0	!									
2									_	
4										
3						·				
в										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Orilling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

		٦
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips	

NO WELL INSTALLED

	В	ASF	= W	yar	ndotte /	/OC6		Log	of Boring SP	
1,200	Depth (feet bgl)	Blow Counts	Sample Recovery (%)	_	ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-2		60%	0		Clay brown, sand, silt, and gravel. Clay brown with some fine sand, and occasional debris fragment.	Cr Cr			7
	-4 -		*	0 512			CL PT	7773 6 6		1
	φ -		100%	1100		Coke as above. Saturated.	PT CL			
	- -10					Lite of botting				
	- -12 -								-	7
	-14 - -16									
	- - -18					•				7
	-20			ļ						1

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	7, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgi): 5.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	-	W	yar	dotte	A0C6		Log	of Boring SP	04C
	Depth (feet bgl)	Blow	ample	ecovery (X)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0 - -2		60		0		Clay brown, sand, sit, and gravel. Clay brown with some fine sand, and occasional debris fragment. Clay grey with medium grained sand and occasional DBO fragment.	C. C.			
	-4 -		- 3	<u>, </u>	0 512		No recovery Clay grey-brown with fine grained sand.	CL PT	יייבי פ <i>ופ</i> וני		
#	ф , ф		100)X			Coke black. Coke as above. Saturated. Clay dark grey with sand. Saturated.	PT CL	55 55 55	·	
	- -10						End of boring				
	- ⊣2 -									_	
	-14 - -16										
	- -18 -										
	-20	}									-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 8/8/96 Date Completed: 8/8/96

Apparent Depth to Saturation While Drilling (ft. bgl): 5

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

8	ļ			,	D or FID (ppm)		1		Borehole Completion	
Depth (feet bgl)	Blow Counts		Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Flevation (ft.)
-0						Clay brown with sand, silt, and gravel.	CL			
-2		90) %	0		Clay brown-grey with sand, occasional gravel, and coal fragment.	CL			†
						No recovery.				
-4 -6		80	2	164		Coal black, medium grained, size aggregate. Saturated @ 5'.	РТ			
				23		Sand brown, fine grained with silt, Laminated. Saturated.	SM			
₽						End of Boring				
10										
12										
									-	
14										
16										
18										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 8/8/96 Date Completed: 8/8/96

Apparent Depth to Saturation While Drilling (ft. bgl): 6 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte /	40C6	Lo	og	of Boring SP	04E
	- E			P	(D or FID				Borehole Completion	
	Depth (feet bgi)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	Lithologic	Log		Elevation (ft.)
						Clay brown with sand, gravel, and silt.				-
-2	2		70%	0		Clay brown with sand, coal, and DBO fragments.				
	1		X			No recovery.				
6	3		50%	49		Sand yellow-brown, medium grained. Saturated. SP				1
	}			161.8 7816		Coal black, medium grained. Saturated. PT Cedar red. Noist. PT	يرك			-
-						End of Boring				-
10	0									1
H	2									
-										1
14	4			,						
-16	3									
-										1
	3									
-2	o					·				

BASF Wyandotte A0C6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Borehole Diameter (in.): 2"

Date Started: 8/8/96 Date Completed: 8/8/96 Total Depth Drilled (ft.): 8

Apparent Depth to Saturation While Drilling (ft. bgl): 6 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	=	W;	yar	dotte /	40C6		Log	of E	oring SP	04F
(B)			i	P	ID or FID (ppm)					orehole	
Oepth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log			Elevation (ft.)
- ~ - ~		90		0.0		Clay brown with sand, silt, and gravel. Clay brown with sand, occasional coal fragments, DBO fragments, and debris.	디				
-		60	}	8.1 2300		No recovery. Clay dark grey, sand, and gravel. Saturated. Cedar Peat red-brown.	CL				
- ⊣0 -						End of Boring					-
-12 - -14											-
- ⊣6 -											
- 1 8 - -20											

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 7/18/96 Date Completed: 7/18/96

Apparent Depth to Saturation While Drilling (ft. bgl): 3.5

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	 F	W	yar	dotte /	/0C6		Lo	g of Boring S	 7
	Depth (feet bgl)	Blow	Sample	Recovery (%)		(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	P -			A			Industrial Fil gravel and sand, trace slag, brick, loose, unconsolidated with iron staining. Moist.	GP			-
	-2		10	। ०%			Chder Ash black. Moist.	PT			
	- 4 -				>300		Sand grey-black sitt-like, mottled. Grades to dark grey fine sand and sit. Saturated & approximately 3.5°.	SM			
	- - -10		40	\ \ \ \ \			Sand dark grey, fine grained with silt. Saturated. {Trace wood}	SM			
	-12		Ľ				5-4 4 5-4-4				
	-						End of Boring .			_	1
	- -16						·				
	-18 -										
-	-20										4

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, 1	inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/18/96 Date Completed: 7/18/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	BASF Wyandotte AOC6 Log of Boring SP05-									
*	(jbq				PI	D or FID (ppm)				Borehole Completion	~
	Depth (feet bgl)			ery (X)	Values	Profil e	Soil/Rock Description and Comments	USCS Classification	gic		Elevation (ft.)
	o Dept	Blow	Sample	Recov	Š			USCS Classif	Lithologic		Eleva
	_		' 				Industrial FIII gravel and sand, trace slag, brick, loose, unconsolidated with iron staining. Moist.	GP			
ı	-2		7,	 0%			Cinder Ash black. Moist.	PΤ			
	<u>-</u>				>400		Sand grey-black silt-like, mottled. Grades to dark grey fine sand and silt. Saturated 0 approximately 3.5'.	SM			-
ı	-4		7				Sit black with fine sand-like material, may be tank bottom sludge.	ML			•
	-6 -		10	0%			•				-
	-8 - -10		80	2%	288		Sit dark grey, same as above. Saturated:	ML			
-	-1 2					:	End of Boring				
	- -14 -										
	1 6						·				-
	-18										
-	-20					ļ					

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineeri	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/18/96 Date Completed: 7/18/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3	5 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP05-								5-2		
(g)				PI	(D or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow		Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
			,			Industrial FIII gravet and sand, trace slag, brick, loose, unconsolidated with iron staining. Moist.		0000		1
-2	1	I		>100Q		Cinder Ash black, moist.	PT			
-4						Sand grey-black, silt-like, mottled. Grades to dark grey fine sand and silt. Saturated @ approximately 3.5°.	SM			
φ		50	*	>1000						
-8		X				Sit black with fine sand like material, may be tank bottom sludge.	ML			
TO - - ~		90:	*	•100d						
- ⊣ 4						End of Boring			_	
- ⊣6										
- -18 -						•				+
-20					}					

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scie	nce and Engineering, Inc	•
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/18/96 Date Co.	mpleted: 7/18/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While [Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP05-3									
Depth (feet boi)	MO	Sample Recovery (%)		(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
9	<u> </u>	100 2			Industrial FIII dark grey, sand and gravel, slag, and brick. Moist.	S ⊃ GP			
-2		90%	1000+		Ash, rock, sand, gravel black, topsoil like. Grades to saturated at approximately 3.5' with black fines.	SP			
6		100%	179		Sand black, fine to medium grained possible column bottoms. Saturated.	SW			
3		*			End of Boring	<u></u>			4
10									
-12 -								-	
14									
H6					•				
18									1
-20			ł	}					-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Orilling Method: Hydraulic Hammer
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/19/96 Date Completed: 7/19/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

Page 2 of 2										
	BASF Wyandotte			PID or FID			<u> </u>	Log	of Boring SPO	0-4
o Depth (feet bgl)	Blow	Sample	Recovery (X)	Values	(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Elevation (ft.)
~ ~ . ₹		,	0%	15		Industrial Fill dark grey and black with gravel, grass surface, Saturated 0 3.5°.		50,000,000,000,000,000,000,000,000,000,		
- €		0	%			No recovery.				
-8 - -10 -		50)%	100		Sand black, fine grained with silt.	SM			
- 12		ļ				End of Boring			-	
14										-
16										
18										4

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/19/96 Date Completed: 7/19/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 2.0	Ground Elevation (ft.):

Completion Information

	······································
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP05-5									5-5
) Fig.			P	ID or FID (ppm)				Borehole Completion .	
Depth (feet bgl)	Blow	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-2		75%			Topsol black with coarse gravel and brick. Saturated 8 2'.	CL	0-0-0		1
1		132	5.2		Sit with some clay and coarse grained sand.	ML			1
-4		*	135		Fine grained material black, possibly column bottoms. Saturated.	РТ			-
-6		50%			<u> </u>				4
					No recovery.				
10		0%			No recovery.			·	1
-12									
-					End of Boring			_	
14									
-16									-
-18 -18									-
-20									4

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 7/19/96 Date Completed: 7/19/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3.0	Ground Elevation (ft.):

Completion Information

. 1		
	Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

E	BAS	F	W	yar	ndotte /	40C6	ı	og (of Boring SPO	5-8
, gi				Р	ID or FID (ppm)				Borehole Completion	~
Depth (feet bgl)	Blow	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
F						Topsoli				
-2		75	5%			Sand brown, coarse grained with coarse gravel and cinders. Moist.	SP			- -
						DBO /lime waste. Saturated.	CL	X	:	-
4 6		50	,	55.5 65.5		Gravel with black fill, column bottoms, and wood (rail lies). Wet.	ec			-
8			?	03.3		SIt black, very fine grained.	мн			<u>-</u>
-10 -		0:	×			No recovery.				· -
12			_			End of Boring				-
-14									·	1
-16 -										1
-18										1
-20					:					-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer							
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"							
Date Started: 7/19/96 Date Completed: 7/19/96	Total Depth Orilled (ft.): 10							
Apparent Depth to Saturation While Drilling (ft. bgl): 3.5	Ground Elevation (ft.):							

Completion Information

	
Grout Interval (ft. bgl): 0-10	Grout Type: Bentonite chips

NO WELL INSTALLED

سععير	BASF Wyandotte AOC6 Log of Boring SP05-7									5-7	
	7				ΡI	D or FID (ppm)				Borehole Completion	•
	Depth (feet bgl)			ery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	oğic		Elevation (ft.)
	o Dep	Blow	Sampl	Reco	_						Elev
		į	lÎ	-	ı		Topsol		8-8-8		
	ŀ	}		1	0.0		Industrial FII. slag, cinders.	GP	.0°0.0		-
	-2		90:				Sand brown, coarse grained, silty. Noist.	SM			_
	-]	1	٦	J		DBO white.	CL	× × ×	j	1
		ļ					Sand brown, coarse grained, silty. Moist.	SM			j
							Silt black, column bottoms.	МН		·	
	-4		1	٦°	3.0						1
	-		100	×			Peat/Hood	PT			-
		İ		1							
	-6		1	1			Gravel line with coarse grained sand.	GW	000		
THE STATE OF THE S				1	300		SIt black with peat/wood. Column bottoms.	OL			-
	8		20	١,							1
	- ,						No recovery.				-
l				1	1					Ì	1
l	40		*	┨	1	į	End of Boring				- 1
											l
	-				1						1
	-12	:			1						1
	72				- 1					{	1
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1	-16										1
	.	Ì		1						{	1
	-18				- 1						
	-										1
											4
					1				•		ļ
ļ	-20	ļ			1	1				ļ	4

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 7/19/96 Date Completed: 7/19/96

Apparent Depth to Saturation While Drilling (ft. bgl): 3

Ground Elevation (ft.):

Completion Information

	. , ·
Grout Interval (ft. bgl): 0-14	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte A0C6 Log of Boring SP05-8									
	bgi)			PI	D or FID (ppm)				Borehole Completion	Ç
	OBpth (feet bgl)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2		75%	0.0		Industrial FIII black with coarse sand, slag, and topsoil.	GP	0000		
	-4			21.9		DBO grey with coarse sand, orange flecks, and some fines. Saturated 8 3'.	CL	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1
	-		40%	24.1		Sit black with column bottoms and wood (orange rail ties). Pound @ 5°.	мн			4
	Ф			1000+ /800+		SRt grey. Rods are foamy. Sample liners are becoming very brittle. They are becoming increasingly difficult to remove.	мн			-
	- -10 -					Sit black.	мн			
	-14			1000+		End of Boring			_	
	-16									
	1 8									
ļ	-20									-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	ç.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/19/96 Date Completed: 7/19/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 3	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	F W	yar	ndotte /	/0C6	Lo	og of	Boring SP05	-8A
	bgi)			P	ID or FID (ppm)				Borehole Completion	·
	Oepth (feet bgl)	Blow	Sample Recovery (*)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2					Industrial Fill coarse sand, slag, some fines, and topsoil.	GP			
	-			55		DBO with coarse sand, fine gravel, and some fines. Saturated @ 3°.	CL	* * * * * * * * *		
	-4					Silt black. Column bottoms.	мн			
	-6			20+ >900		Wood orange.	PT	772		1
	_					Sand grey, fine grained with some silt.	SM			
	8					No recovery.				}
	-					End of Boring				-
	- 10									
	- 12								~	-
	-14									-
	-1 6									1
	-1 8									
ļ	-20									- {

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer							
Soil Sampling Device: 4'Lined Steel Sample	Borehole Diameter (in.): 2"							
Date Started: 7/19/96 Date Completed: 7/19/98	Total Depth Drilled (ft.): 12							
Apparent Depth to Saturation While Drilling (ft. bgl):	3.5 Ground Elevation (ft.):							

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

F	BAS	F W	yar	ndotte /	40C6		Lo	g of Boring S	
O Depth (feet bgl)	Blow	Sample Recovery (%)	_	ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
- 4 - 6		90%	10		Non-Honogeneous Fill sand, gravel, coal, slag, brick, odor is Creosote like, grass surface. Grades to grey 080 and fine to medium sand. Saturated @ 3.5°. Column Bottons black, wet with a strong odor.	GP			
- - - 10		100%	4.0		Sand grey, line grained with silt. Saturated.	SM			
-12 -14 -16 -18					End of Boring	· · · · · · · ·	- A COLLEGE		

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF									
Drilling Company: Environmental Science and Engineering, Inc.									
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer								
Soll Sampling Device: 4'Lined Stee	Sampler Borehole Diameter (in.): 2"								
Date Started: 7/18/96 Date Completed:	7/18/96 Total Depth Drilled (ft.): 12								
Apparent Depth to Saturation While Drilling (t. bgl): 3.5 Ground Elevation (ft.):								

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	=	W;	yar	dotte A	/OC6		Log	of Boring S	P07
Depth (feet bgi)			ry (x)	9	(D or FID (ppm)	Soil/Rock Description and Comments	cation	jic	Borehole Completion	Elevation (ft.)
Oepth	Blow	Sample	Recove	R	Profile		USCS Classification	Lithologic		Eleva
-2 -		80) x	55		Non-Homogeneous Fill dark grey, fines and gravel, grass surface, trace slag, and some DBO. Saturated 8 3.5'.	GP			-
τ - - -		70	×			Sand coarse grained with fines and coarse grained gravel.	SP			
-8		X		45		Sand black, fine grained with fines. Saturated.	SM	5 5		-
-		-				Sand coarse grained with wood fragments. May be a railroad tie.	sw			-
-10		50	*	128		Peat	PT]
- ⊣2						Sand greyish-tan, fine grained. Saturated.	SW]
12						End of Boring			_	
-14										
- ⊣6										
- -18 -										1
-20										4

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/18/96 Date Completed: 7/18/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 6.0	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	AS	F	W	yar	ndotte A	VOC6		Log	of Boring SPC	
	bg()	Blow	Sample	Recovery (X)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
							Industrial FIII with gravel, grass surface. Noist.	GP	0000		}
-	-2		80	 	>800		Column bottoms black, cinder-like, strong odor. Moist.	PT			1
	4		80	2	>200		Sand grey, coarse grained with fine gravel. Saturated.	SP			
					200		Sand black, fine grained, and silty. (Column bottoms?). Saturated.	SM			
	10		10	×	>200		Wood Fraguents	PT			
	12						Sand black, fine grained, and silty. Low recovery due to saturation.	SM			
							End of Boring			-	
-	14										
	16										
	18										1
-	20										

BASF Wyandotte A0C6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	e and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/5/96 Date Compl	eted: 8/5/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drill	ing (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	=	W	yar	ndotte .	AOC6		Lo	g of Boring S	РОВ
- B				P	ID or FID (ppm)				Borehole Completion	
Depth (feet bgi)	Blow	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
P			1			Clay brown with sand, silt, and roots.	CL.			1
-2 -2		8	0%	0		Sand light grey, coarse grained, poorly sorted with clay and some gravel.	sc			4
-4		۲,		0		Sand dark grey, fine grained with diseminated organic material,	OL			1
					}	No recovery				
- 6		80) %			Sand light grey-brown, fine grained, well sorted with interbedded 2" organic peat layers.	OL			4
- 8 -				1		End of Boring				, d
-10 -										-
- 1 2 -	:									
⊣4 -										
-1 6										
-18 -										
-20	1									4

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/29/96 Date Completed: 7/29/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 8	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips	_
or out anticired (it. bg).	order type: Bernomic crips	

NO WELL INSTALLED

В	ASF	= 1	W	yar	dotte .	40C6		Lo	g of Boring S	PO
(G				P	(D or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow Counts		Recovery (%)	,	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
7						Topsol dark brown with grass cover.	SC CL			
-						Clay light brown with approximately 30% gravel.	-	-0-0-		
-2 - -4		30	*	0		Clay dark grey and white, dark grey with orange mottling. Some gravel and coal fragments. White material is a possible ash deposit.	CL	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
6		0%	¥.		·	No recovery				
8		X		30/30		Peat brown, strong sewer odor. Sit dark grey with some clay. Saturated.	PT ML			
10		100	*			Clay grey with approximately 30% silt. Parting of brown peat.	OL			
12						End of Boring			_	
14						·				
6										
8									·	
20					1					

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/29/96 Date Completed: 7/29/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 8	Ground Elevation (ft.):

Completion Information

	, , , , , , , , , , , , , , , , , , ,
Grout Interval (ft. bgi): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

ا ۽ ا				PI	D or FID (ppm)				Borehole	
Depth (feet bgl)	Blow Counts		Recovery (x)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Elouation (11)
-0 - -2 -		502	٤	0/0		Loam dark brown. Clay light brown with some gravel. Clay brown with sand and gravel. Coal Slag dark brown, with clay and white ash deposits.	GC CCC	1200 1200 1200 1200 1200 1200 1200 1200		
6		0%				No recovery.			·	٠
10		10%	l	0/15		Sit light grey with some clay. Saturated.	ML			
12		_\				End of Boring			-	
14										
6										
8										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/29/96 Date Completed: 7/29/96	Total Depth Orilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 8	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring Si							SP11			
	Depth (feet bgl)	Blow		Recovery (X)	•	(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	Ю		1	•			Loas brown,	SC SM			1
	-2 -		75	%	0/8		Sand grey-brown with silt, clay, and gravel. Gravel dark grey with coal and cinder fragments. I' layer of white clay (ash?).		000000000000000000000000000000000000000		
	6		07	ĸ		,	No recovery.			-	4
	\$ - ₽		10:	z			Silt grey with some gravel. Saturated.	ML			
·	_			ļ	0/300		Sand grey, fine grained, well sorted, silty, and some clay. Saturated. Oil sheen on water.	SM			
Į	-12			4			Clay light brown-grey with some silt. Fragment of clinker.	CL			1
	- -14 -						End of boring				-
	-1 6										
	-18 -										-
ł	-20	ľ		-	1						1

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/29/96 Date Completed: 7/29/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 8.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log o									SP12
						Soll/Rock Description	-		Borehole Completion	(11.)
	O Depth (feet bgl)	Blow Counts			Profile	and Comments	USCS Classification			Elevation (ft.)
	- - -		85%	0/8	5	Loan dark brown. Brick red. Gravel dark grey, sand, possible slag, coal fragments, and some clay.	CL	0000		
	-4 -		*			Clay grey with abundant silt. Debris light grey with sand and coal. Abundant concrete wash.				-
	က - နာ		50%	0/8	0	Sand dark grey, fine grained, well sorted, sity, with some peat.	SM			1
	- - 1 0		95%	6.8,	,	Clay brown with sand and gravel. Sand & Gravel dark grey, abundant organic material. Strong sewer odor. Saturated	CL GP			-
	- -12					Clay grey with abundant silt. Roots. End of boring	CL	<u> </u>		-
	- - 4 -					·				-
	- 16									
9	- 18					·		·		
ŀ	-20	}								1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Borehole Diameter (in.): 2"

Date Started: 7/29/96 Date Completed: 7/29/96 Total Depth Drilled (ft.): 12

Apparent Depth to Saturation While Drilling (ft. bgl): 3.5 perched Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

<u>س</u> ــــــــــــــــــــــــــــــــــــ	BASF Wyandotte AOC6 Log of Boring Si										
	Depth (feet bgl)	Blow	Sample	Recovery (X)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-2		85				Loam dark brown. Clay brown with gravel and sand. Partings of fine sand.	SC)			1
	-4			,	0/ 100		Gravel dark grey with sand. Saturated.	GP			
	-6 -		50	x				ML	777		4
	8		,	(5/ 1000+ 30/		Nadody Material Drown.	GC			1
	-10 -		80		600		SIt dark grey with some clay.	ML			-
	H2 - H4		*	-			End of boring	E		-	
	- 18										
	-20]

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sample	r Borehole Diameter (in.): 2"
Date Started: 7/29/96 Date Completed: 7/29/9	76 Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl):	4 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log								og of Boring SP14		
	bgi)			P:	ID or FID (ppm)				Borehole Completion	~	
	(feet bgl)		(X) ×			Soil/Rock Description and Comments	ation	υ		on (ft.	
	Depth	Blow Counts	Sample Recover	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)	
	•		1	_		\ Loam dark brown.	SC			1	
	_			 		Clay dark brown, sand, gravel, and charred wood with nails.	CL		·		
	2 -		25%	0.6		Gravel dark brown-grey, sandy with some clay. Detrital grains primarily of clinker.				-	
	-4 - -6		50%			Grave l as above. Saluraled.	GP			4	
)	-8		*	2.7		Sand dark grey, fine grained with silt and black organic material. Saturated.	SM			-	
	-10 -		30%	78		Sand brown-grey, fine grained, well sorted with silt and black organic material. Strong petroleum odor. Saturated.	SM			1	
	72	}				End of boring				1	
	- -14 -										
	-16			·						4	
	-18					•					
-	-20									4	

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 7/29/96 Date Completed: 7/29/96	Total Depth Drilled (ft.): 12						
Apparent Depth to Saturation While Drilling (ft. bgl): 4.25	Ground Elevation (ft.):						

Completion Information

	
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

 В	ASF	= 1	4)	yar	dotte	AOC6		Log	of Boring SP	14-1
•				P	D or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow	•	Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
Γ						Loan dark brown.	SC	000		
-2		75	×	0		Gravel dark grey with cinders and sand. Moist.	GP			1
_						Clay grey.	CL			1
- 4		*	\dashv			Gravel dark grey with cinders and sand. Moist	GP	000		1
-6		60	x	38		Sand fine grained, well sorted, with some silt and black organic material. Saturated.	SM			-
			Ì			Peat	PT CL	מוצוני		1
ዋ ,		80	*	48		Clay grey. Sand light-brown, fine grained, well sorted, with some silt. Slight odor. Saturated.	SM			-
-1 2			٦			End of boring				1
- -14 -									_	-
⊣ 6										-
-1 8 -										
-20						·				

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	•
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 7/29/96 Date Completed: 7/29/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 6	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips
--

NO WELL INSTALLED

	В	ASF	= W	yar	dotte /	40C6		L	og of Boring (SP15
*	(jb)			P	ID or FID (ppm)				Borehole Completion	
	Obpth (feet bgl)	Blow Counts	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	٦					Loam dark brown.	SC			1
	-2		80%	0		Clay brown, indurated with cobbles and sand.	CL			
	4 		25%			Gravel with light grey concrete wash, debris, and sand.	GP	10000000000000000000000000000000000000		1,1111111111111111111111111111111111111
	-8 -		\ \ \	O		Sand dark grey, fine grained, well sorted with silt. Abundant black fine grained organic material. Saturated.	SM			-
	-10 -		50%	٥		Sand light brown-grey, fine grained, well sorted with silt. Saturated.	SM			
						End of Boring			_	
	-14									1
-	-16									
ł										1
 	18									
	20								Ì	

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF									
Drilling Company: Environmental Science and Engineering, Inc.									
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer								
Soil Sampling Device: 4'Lined 2"	Steel Sampler	Borehole Diameter (in.): 2"							
Date Started: 8/5/96 Date Com	pleted: 8/5/96	Total Depth Drilled (ft.): 8							
Apparent Depth to Saturation While D	Ground Elevation (ft.):								

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

سسر	В	BASF Wyandotte AOC6 Log of Boring SP1									SP16
	bgi)				P	ID or FID (ppm)				Borehole Completion	1.)
	Depth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	φ		1				Clay brown with fine sand and roots.	CL CL	-0-0-		1
	-2 -		70	*	0.0		Clay light brown with abundant gravel and debris. Coal black to dark brown, sand, debris with some clay.	PT	76-65 		
	6		90	%	0.0		Sand brown, fine grained, well sorted with silt. Saturated 0 6'.	SM			
	-B -		_Ψ	_			End of Boring				-
	-10 -										-
	- 12 -										-
	H4 -						·				
	- 1 6 -										
	⊣ 8						·				
	-20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF				
Drilling Company: Environmental Science and Engineering, Inc.	с.			
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer			
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"			
Date Started: 8/5/96 Date Completed: 8/5/96	Total Depth Drilled (ft.): 8			
Apparent Depth to Saturation While Drilling (ft. bgl): 6	Ground Elevation (ft.):			

Completion Information

				 _
Grout Interval (ft. bgl): 0-8	Grout	Type:	Bentonite chips	

NO WELL INSTALLED

В	ASF	= 1	W :		dotte /	4006		L	og of Boring	SP1
(lgd				PI	D or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments U	Classification	Lithologic Log		Flevation (ft.)
Ð				0.0		Clay brown with sand and roots.	Cr Cr	0-0-		
						Clay grey with gravel and sand. Sand brown, fine grained with gravel.	SP	0.0		
-2		60	*	0.0			CL			
4		- X	,			No recovery.				
6		60	%	0.0		Sand brown, line grained with some silt. Saturated.	SM			
8		\				End of Boring				
10										
12									_	
14										
6								•		
8										
20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 8/5/96 Date C	ompleted: <i>8/5/96</i>	Total Depth Drilled (ft.): 4					
Apparent Depth to Saturation While	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	= W	yar	dotte A	40C6		Lo	og of Boring (SP18
塘	(16)			P	(D or FID				Borehole Completion	
	Obpth (feet bg!)	Blow	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (11.)
	-		50%	149		Clay brown with sand and gravel. Clinker Gravel brown and red with black gravel and black coal.	GP CL	00000		
	-4					No recovery. End of Boring				-
	- -6					End of Borning				
	-8									-
	- -10									
	-1 2								_	
	- 14			•						
	-16									
	18									
H	20	1	ľ	{	1					1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Orilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/5/96 Date Completed: 8/5/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 8	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= W	yar	dotte /	/0C6		Log	of Boring Si	P18A
	bg()			P	(D or FID				Borehole Completion	~
	Oepth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Clay brown with fine sand and roots.	<u>CL</u>	×××		.]
	-2		50%	0.0		DBC with black clinker gravel, coal,and medium grained sand.	CL	(x x x x x x x x x x x x x x x x x x x	·	
	-4		Y			No recovery.				
	-6		70%	0.0				00000		1
	.					Hoody Naterial brown.	PT			4
	-8		*	5.1		Sand light grey-brown, fine grained, well sorted with silt. Saturated @ 8'.	SM			4
	-10		20%			No recovery.				4
ł	12		_₩.			End of Boring	1			+
						·			-	
	14									
	16				! !					1
	18						•			1
	20									1

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF				
Drilling Company: Environmental Sci	ence and Engineering, Inc.			
Drilling Rig: Keck (TM) Soil Punch		Orilling Method: Hydraulic Hammer		
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"		
Date Started: 8/5/96 Date Co	ompleted: <i>8/5/96</i>	Total Depth Drilled (ft.): 4		
Apparent Depth to Saturation While	Drilling (ft. bgl):	Ground Elevation (ft.):		

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

									og of Boring !	SP19
9	(150			P	ID or FID (ppm)				Borehole Completion	
	ک Depth (feet bg!)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-	7		1			Clay brown with sand and roots.	CL	000		
	-2		50%	249		Clinker Gravel black, coal, and sand.	GP	0000000 Lithologic		-
-						No recovery.				_
f	-4		-V			End of Boring				
										-
f	6									-
Ì										-
1	-8									-
-	•									-
}	10									-
-										-
-	12									-
-									-	1
}	14									}
}										}
-	1 6									
}										4
}	18									1
}										1
					į					}

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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engine	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sample	er Borehole Diameter (in.): 2"
Date Started: 8/5/96 Date Completed: 8/5/9	6 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	= W	yar	dotte /	900	··· <u>·</u>	Log	of Boring Si	
bg()			PI	D or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow Counts	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-2		40%	190.6		Clay brown with sand and roots. Clinker Gravel black and coarse grained sand with some red and yellow colored debris. No recovery.	GP	10000000		-
-4 - -6		₩			End of Boring	1	·		-
-\$ -				1					***************************************
- -12									
-14 - -16				•					
1 8									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 8/5/96 Date Completed: 8/5/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	B	BASF Wyandotte A0C6 Log of Boring SP								P19B	
11 1 1 1	et Dgi			(X)	ļ	ID or FID (ppm)	Soil/Rock Description			Borehole Completion	(11.)
	Depth (feet bgl)	Blow Counts	•	•	1 47 1	Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
P	1		٦			ſ	Clay brown with sand and roots.	CL.	A SO		1
-2			2	5%	0.0		Clinker Gravel black with coal, and debris fragments, some sand.	GP	000000		
							No recovery.				
4			1		36.8		Clinker Gravel black. Moist.	GP	000000		
6			95	; %			Peat dark brown to black with sand.	PT		-	
-8			H		24.6		Sand light brown, fine grained, and well sorted. End of Boring	SW		i	
+											
10			İ		i						
12			1								
+			ĺ							_	1
H4 -			l								
H6											
-18			1								
j			ĺ								

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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In-	с.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/5/96 Date Completed: 8/5/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 7	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

_	В	ASI	= W	yar	dotte A	VOC6		Log	of Boring Si	P19C
	(lgc			P	(D or FID (ppm)				Borehole Completion	
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	1 47	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	2 		60%	0.0		Clay brown with sand and roots. Clinker Gravel black with some sand. Moist.	GP GP	1000000000		
	-4		*			No recovery.				
	- 6		70%	0.0		Clinker Grave! black with some sand. Moist.	GР	000000 000000		-
	-8			85.2		Sand light grey-brown, fine grained, well sorted with some silt. Saturated. End of Boring	SM			
	- - 10									-
	-12									
	-14								~	1
	-16									-
	1 8									
	20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and E	Ingineering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel	Sampler Borehole Diameter (in.): 2"
Date Started: 8/5/96 Date Completed:	8/5/96 Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft	. bgl): 10 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description and Comments Soil/Rock Description Soil/Rock Description and Comments Soil/Rock Description S		T	7			ID or FID	T	Ţ	LOS	of Boring Si	101
Clay brown with sand and roots. CL SCO GR	Jepth (feet bgl)	Mo	ounts	ample scoverv (X)		(ppm)	and	SCS Bssification	hologic g		Elevation (ft.)
No recovery. No recovery. Sand dark grey to grey, fine grained, well sorted. Saturated. SW End of Boring	0	B			-			S Ö CL GP	11 50000 11 50000		
Sand dark grey to grey, fine grained, well sorted. Saturated. Sw End of Boring				*					,		
Sand dark grey to grey, fine grained, well sorted. Saturated. SW End of Boring				OX 			No recovery.				
14			3	00%	16.0			SW			
	4										
16						·					

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	e and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 8/5/96 Date Comp	leted: 8/5/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Dril	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASF		lya	ndotte	AOC6		Lo	g of Boring S	
Depth (feet bgl)	Blow	Sample Becovery (*)	_	PID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (1t.)
9		1			Clay brown, with some sand, gravel, and roots.	CL.	000		1
-2		50%	181.6	3	Slag Gravel black, coarse grained sand, coal fragments and clay.	GP			-
-					No recovery.				_
4 -		<u> </u>			End of Boring	•			-
-6									
- -8									
⊣o -									
-12 -								-	4
⊣4									-
⊣ 6									
-18									-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ing, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	Borehole Dlameter (in.): 2"
Date Started: 8/5/96 Date Completed: 8/5/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	5.5 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chip

NO WELL INSTALLED

R	ASI	- T	-W		dotte /	1 T	 	LOG	of Boring SP	20/
(lbq				P3	(D or FID (ppm)				Borehole Completion	-
Depth (feet bgl)	Blow Counts	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-0			1			Clay brown, with sand, gravel, and roots.	CL	0000		
-2			0%	0.0		Cinker Gravel black with sand, and coal fragments.	GP			
-4		5				No recovery.				
6		80	0%	181.6		Sand dark grey, fine grained, well sorted with some silt. Strong sewer odor. Saturated	SM			
8		_,	-			End of boring			·	
10						·				
12									~	
14										
6		-								
8										
20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Sci	ence and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Co	ompleted: <i>8/6/96</i>	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While	Drilling (ft. bgl): 6	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	SF		PI	D or FID		\top		Borehole	SP2
Depth (feet bgl)	Counts	Sample Recovery (*)		(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Líthologic Log	Completion	Elevation (11.)
2		25%	0.0		Clay brown, with sand, gravel, and roots. Clinker Gravel black with sand, and coal fragments.	GP GP	0000		
4		*			No recovery.				
3		50 %			Clinker Gravel black with sand and coal fragments. Saturated.	GP	000		
3		<u> </u>	331		Sand light grey-brown. Saturated End of Boring	SW			
0									
2								_	
4									
3									
3									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 1	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chip

NO WELL INSTALLED

 В	ASI	=	W	yar	dotte /	7008		Lo	g of Boring S	P22
(feet bgi)			ry (X)		(ppm) Profile	Soil/Rock Description and Comments	cation	jic 1	Borehole Completion	Elevation (ft.)
O Depth	Blow	Sample	Recove	8 ₽	7701110	Clay brown, with sand, gravel, and roots.	Classification			Eleva
-2		50	0%	0.0 139.9		Cinker Gravel black with black coal fragments, and fine grained sand. Cinker Gravel as above. Saturated.	GP GP			
-4					·	No recovery				
-6 -		50	2%			Cinker Gravel black with black coal fragments.	GP	, 000 c		
-8				48.9 <i>[</i> 596		DBO white sandy clay. Saturated. — Cedar Peat brown and red. End of boring	CL PT	**************************************		-
-1 0										1
-12									. ~	-
-14										
-16										
- 1 8										
-20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soll Sampling Device: 4' Lined Steel Sampler

Date Started: 8/6/96 Date Completed: 8/6/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chip

NO WELL INSTALLED

8		ļ		PI	(D or FID (ppm)				Borehole Completion	
Depth (feet bgl)	Blow	Sample	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		
0						Clay brown, with sand, gravel, and roots.	/ CL	,00.0		
2		60	1	0.0		Cinker Gravel black with some sand.				
						DBO white, sandy. Minor saturated layer (i" thick) on top of DBO	CF	X X X X X X X X X		
4		90	(<u> </u>			DBO white. Saturated.	CL	X		
						Cedar Peat brown.	PT	ڰڔڰ۫ڔڰ ڝ		
3				390		Sand grey-brown, fine grained, well sorted with silt. Saturated.	SM			
						End of boring .				
0										
2										
4										
6										
8										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 2	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte AOC6						Log of Boring SP23					
					PI	D or FID (ppm)				Borehole Completion	7	
	Obpth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification			Elevation (ft.)	
							Clay brown, with sand, gravel, and roots.	CL)	000		1	
	2		60	2	0.0		Clinker Gravel black with sand.	GP	0000			
	_		j		24.0		Clinker Gravel as above. Saturated.	GP	0000		1	
	4		- *				No recovery.					
	ф ,		90	×			Sand yellow, coarse grained with clinker gravel.	SP			-	
	8		¥	_	290		Cedar Peat red-brown,	РΤ			1	
	- -10 -						End of boring.					
İ	-			1						-	4	
	-14											
	- -1 6											
	-8⊦											
	-20				ļ						-	

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer					
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 8/6/96 Date Cor	mpleted: 8/6/96	Total Depth Drilled (ft.): 8					
Apparent Depth to Saturation While [Ground Elevation (ft.):						

Completion Information

Grant Interval (ft hel): 0-9	Crout Type: Bentonite chie
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte A0C6 Log of Boring S									P24	
	(lgd	PID or FID (ppm)								Borehole Completion	
,	Oepth (feet bgl)	Blow Counts	Sample	Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	,	Elevation (ft.)
	70				0.0		Clay brown, with sand, gravel, and roots.	CL/	000		
	_				G .0		Clinker Gravel black with sand.	GP	0000		1
	-2		95	%	1.4		DBO white with coarse grained sand.	CL	× × × × × × × × ×		1
	-4		-)	(53.6		DBO as above. Dry to moist.	CL	X X X X X X X X X X X X X X X X X X X		
	-6		100	0%				CL	x		
P	-8				468		Cedar Peat red-brown. End of boring.	РТ			4
	-10										-
	-12										
	-14 -						,				
	-16										4
	1 8										1
-	20										1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/9/96 Date Completed: 8/9/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 6	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips
L	

NO WELL INSTALLED

	BASF Wyandotte A0C6 Log of Boring SP24-1									
	t bgt)				ID or FID (ppm)	Soil/Rock Description		_	Borehole Completion	ft.)
	Oepth (feet bgl)	Blow Counts	Sample Recovery (%)	, ~	Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2		60%	0.0		Clay brown with sand, gravel, and roots. Gravel brown and slag with some clay.	င			
	-		00%	6.8		as above. Saturated.	GC	2020 2020		
	-4 -		*			No recovery.				4
	6		60%	2.0		Siag Gravel black with sand. Saturated.	GP			4
	8		*	145.8		Cedar Peat red. Moist.	PT	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		4
	-10		2%			No recovery, wet tube.				
	-12		<u>.</u>	2.14		Sand light green-brown, fine grained with silt. Saturated. End of Boring	SM	202023	~	-
	-14				,					-
	-16									1
	1 8									
-	-20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scient	ence and Engineering, In	с.
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Co	mpleted: 8/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP28									P25
	(B)			P	D or FID (ppm)				Borehole Completion	
	Oepth (feet bgl)	Blow Counts	Sample Recovery (X)	. •	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-0					Clay brown, with sand, gravel, and roots.	CL	X		
	-2		75%			DBO white.	CL	* * * * * * * * * * * *		
	•			0.0		Sand brown, coarse grained with some clay.	SC	000		1
1	-4		*	0.0		Clinker Gravel black with sand. Hoist.	GP	00.0		1
	-6		50%			No recovery.				
	٠			2.8		CInker Grave) black with sand. Saturated.	GP			
				369		DBO with green and yellow coarse grained sand. Moist (plastic).	CL	*		
	В		V	308		Cedar Peat red-brownr End of boring.	PT)	7.7.2		
	-10									1
ļ	•									1
ŀ	-12								_	1
ł	•									1
-	-14									-
}	•									-
-	-16		:							
										1
_	1 8									-
*										
	-20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

l	Client: BASF	
	Drilling Company: Environmental Science and Engineering, Inc.	
	Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
	Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
	Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 8
	Apparent Depth to Saturation While Drilling (ft. bgl): 6.1	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	731	T			dotte	T	7		g of Boring S	J. 20
eet bgí)			(X)		(ppm)	Soil/Rock Description and	6		Completion	35.
Depth (feet bgi)	Blow	Sample			Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
		,		0.0		Clay brown, with sand, gravel, and roots.	√ CL			
2		90	0%			Clay brown, with coal and clinker fragments.				
6		90	2%							
8				2.8		Clay as above. Saturated.	GP)	0-		
0						Clinker Gravel black with sand. Saturated. End of boring.	∫~@₽ <i>∕</i>			
10										
2									_	
4			İ							
6									·	
8										
20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	ç
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 6.5	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

В	ASI	=	W	yar	ndotte /	4006		Lo	g of Boring S	SP27
(B)		Γ		Р	ID or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow	Sample	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
Γ		ľ				Clay brown, with sand, gravel, and roots.	CL	22.0		1
-2		9	0%			Clay brown, with coal and clinker fragments, some sand.	CL	0-0-0		
-4		 		0.0		DBO light grey with some sand and gravel.	CL	* * * * * * * * * * * * * * * * * * *		-
			0			Na recovery.				4.
6		4	2%			Sand brown, coarse grained, gravel, some clay.	SP			1
•				2.8 64.2		Sand black, coarse grained with abundant coal and clinker fragments. Saturated.	SP			4
В		7		04.2		Cedar Peat red-brown.	PT.	777		1
- T		5(0%			No recovery.	·			1
- -12			<u>, </u>	3.8		Sand light grey-brown, fine-grained, well sorted, with some silt. Saturated. End of boring.	SM			4
-14									-	
-16										4
-18										1
-20					i					

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	n, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

			\neg
1	Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip	-

NO WELL INSTALLED

	В	AS	F	W	yar	ndotte	AOC6		Lo	g of Boring S	
-0		\prod	T		P	ID or FID (ppm)				Borehole Completion	
	Oepth (feet bgl)	Blow	Sample	Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
					<u>.</u>		Clay brown, with sand, gravel, and roots.	CL			_
	-2 -4		10	0%	0.0		080 white to gray. Moist & 3"	CL			-
	.		90	2%	0.0		DBO with dark brown gravel. Saturated.	CL	x x x x x x x x x x x x x x x x x x		
	8				3.8		DBO grey to yellow.	CL PT	× × × × × × × × × × × × × × ×		4
							Cedar Peat red-brown. End of boring.	<u> </u>			
-	10										-
	12									_	-
	14										
	16										-
	18										4
<u> </u>	20										1

BASF Wyandotte A0C6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF				
Drilling Company: Environmental Science and Engineering, Inc.				
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer			
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"			
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Orilled (ft.): 8			
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):			

Completion Information

i		
	Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	= W	yar	dotte /	40C6		Lo	og of Boring S	
in the second	(lg			P	ID or FID (ppm)				Borehole Completion	
	O Depth (feet bgl)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2		90%			Clay brown, with sand, gravel, and roots. Clay brown with sand and coal fragments.	c C			
:	-4		*	0.0		DBO with grey and yellow coarse grained sand. Clay brown with coal fragments.	CL	* * * * × *		
	6		50%			No recovery. DBO light brown with coarse sand.	CL	* * * * * * * * * * * * * * * *		,
	- 8 -		*	5.8		Sand dark grey, fine grained with silt. Hoist. End of boring.	SM		·	4
	-10 - -12									4
	-								-	
	- -16									1
	- ⊣8 -									4
	-20				ļ					-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 8	Ground Elevation (ft.):

Completion Information

	,
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring									P30
	(jōr			P	ID or FID (ppm)				Borehole Completion	
	Oepth (feet bgl)	Blow	Sample Recovery (%)	, •	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-					Clay brown, with coal fragments.	<u></u>			
	~2 -		80%	0.0		DBO light grey.	CL	× × × × × × × × × × × × × × ×		
	- 4		*	0.0		Sand dark grey, fine grained, well sorted, silty.	SM			
্ভা	ф		100%			DBO white and tan laminated	CL	X		
	- -10		0%	0.0		No recovery. Het tube.				
	-1 2		•			End of boring.			_	
	-14									
	- 16									
	1 8									
-	20									1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined William Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 3	Ground Elevation (ft.):

Completion Information

1		
	Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chip

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP3								SP31	
	(Fig.			P	ID or FID (ppm)				Borehole Completion	-
	Depth (feet bgl)	Blow	Sample		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Ю		1			Clay brown, with sand, gravel, and roots.	CL)	×	· · · · · · · · · · · · · · · · · · ·	1
,	-2		90%	0.0		DBO grey with medium grained, medium sorted sand with some clay.	CL	X		
	٢		90%	`]		№ 0 grey.	ह्ये :	* * * * * *]
	-			0.0		DBO with dark grey, fine grained sand.	CL	× × × × × ×		4
	-4 - -6 -8		1009	6.8		D80 light grey laminated. Noist (plastic).	CL			
	- -10 -		0%	30.9		No recovery. Wet barrel				
	⊣ 2		<u> </u>			End of baring.				4
	- - 4 -									
	- 16									1
	-18 - -20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgi): 4.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

Ī	В	ASI	= W	yar	ndotte /	4006		Log	of Boring Si	P31A
	Depth (feet bgl)	Blow	Sample Recovery (%)		ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	О					Clay brown with sand, silt, gravel, and roots.	CL	0 - 0 -		
	-2		70%			Clay brown with sand and a trace of gravel.	CL		•	
Γ		l		11.0		Coaly Material black.	PT	y w		1
-	4		+	0.0		DBO brown-grey and silt plus sand. Plastic (moist).	CL	× × × × × × × × ×		4
	6		100%	0.0	·	Sand brown, coarse grained, medium sorted with clay and coal fragments. Saturated.	sc			
L			1			Clay brown-grey with sand. Dry.	CL			1
	8		•	0.0		Sand green, fine grained with clay and silt. Wet.	sc]
	112		•			End of Boring				

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In)c.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 7.0	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips	

NO WELL INSTALLED

	В	BASF Wyandotte AOC6					70C6		Log	of Boring Si	231B
	(B)				PI	D or FID (ppm)	·			Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Becovery (%)		Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
Γ	,		1				Clay brown with sand, silt, and gravel.	٦	• - • -		1
\mathbf{I}							Clay brown with coarse grained sand and some gravel.	CL	0 0 0		4
ļ.	2		75%	0	.0		DBO white and tan with some sand.	CL	^ x ^ x ^ x x x x x x x x x x x		
	,		-				No recovery.				
	•						DBO white.	CL	* * * * * * * * *		
+	3		100%		-		DBO brown-grey with fine grained sand.	CL	x x x x x x x x x x x x x x x		_
F				8.	.4		Peat red-brown.	PT	722		4
	3			0.	٥.		Sand green-grey, medium grained, well sorted with some clay (DBO?). Saturated. End of Boring	sc			
	2										
-											
	6						·				1
-2											

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF		
Drilling Company: Environmen	ntal Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Pt	unch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Line	d Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96	Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturatio	Ground Elevation (ft.):	

Completion Information

	· · · · · · · · · · · · · · · · · · ·
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	AS	F	W	yar	ndotte /	40C6		Log	of Boring Si	P31C
24					P	ID or FID (ppm)				Borehole Completion	£.
	Depth (feet bgl)			ery (%)	Values	Profile	Soil/Rock Description and Comments	ication	9 <u>6</u>		Elevation (ft.)
	Dept	Blow	Sample	Recove	ΣΛ			USCS Classification	Lithologic Log		Eleva
	ľ		1				Clay brown with sand, silt, and gravel.	Cr)	-0-0-		
	-2		100)%	0.0		Clay brown and tan, mottled with coarse sand and some gravel.	CL	0-0-0		-
	-				0.0		Clay grey with some sand and DBO fragments, occasional coal fragment.	CL			-
	4						as above. Moist.	CL	0-0-0		-
	}										-
	-6		80				Saturated.	CL			
	Ŭ										
		:			2300		Coaly Material black with prominent cleavage. Saturated.	РТ			_
	8		┌╸	1			End of Boring	t			1
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 6.0	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	BASF Wyandotte AOC6						Log	of Boring SF	2310	
	þāl)				PI	D or FID (ppm)				Borehole Completion	7
	Depth (feet bgl)	Blow Counts		RECOVERY (A)	Values	Profile	Soil/Rock Description and Comments	Classification	Lithologic Log		Elevation (ft.)
			Î					JL .	0-0-0		J
	-2		809		0.0		1 / Sing Graves violes, publice like.	W .	× * * * * * * * * * * * * * * * * * * *		4
				1			DB0 white.	,L	×××		
	-4		*		0.0		Clay brown-grey with medium grained sand and occasional coal fragment.	L			1
	-						No recovery.				
	-6		50%				DBO white. Plastic.	, L	X X X X X X X X X X X X X X X X X X X		1
	- 8		_\	_ 5	008		Coaly Naterial dark brown to black. Saturated.	Т			4
	-10 - -12						End of Boring				***************************************
	-14										
											-
	1 6										
	18										
-	-20										4

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

۱	Client: BASF	
	Drilling Company: Environmental Science and Engineering, Inc.	
	Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
	Soll Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
	Date Started: 8/6/96 Date Completed: 8/6/96	Total Depth Drilled (ft.): 8
	Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chip

NO WELL INSTALLED

	В	ASF	= W	yar	ndotte A	VOC6		Lo	g of Boring S	P32
	(feet bgi)		<u> </u>		ID or FID (ppm)	Soil/Rock Description	UG.		Borehole Completion	(ft.)
	Depth (fe	Blow Counts			Profile	and Comments	USCS Classification			Elevation (ft.)
	_					Clay brown, with sand, gravel, and roots.	CL	0 0 0		
	-2 -4		90%	1000+		Coke black coaly	PT			
	-6 -		90%	:		DBO white and dark grey, sand with black clinker fragments.	CL	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		1
i gle	- 8			600		Cedar Peat red-brown. End of boring.	PΤ			4
	- ⊣0 -									
	-12 -								~	
	⊣ 4									
	-1 6									
	-18									
	-20									-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF						
Drilling Company: Environmental Science and Engineering, Inc.						
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer					
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 4					
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):					

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chi	os
	G. GG	· •

NO WELL INSTALLED

	В	ASF	- h	lya	ndotte /	40C6		Log	of Boring SP3	
	(6			P	ID or FID (ppm)				Borehole Completion	_
	Depth (feet bgl)	Blow Counts	Sample Decouper (*)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Ф		1			Clay brown with sand and silt.	CL PT	5173		1
	-2 -		90%	5830		Coaly Material dark brown to black. Coaly Material black. Plastic.	ÞΤ			-
	-4 -		₩.	382		Sand black coarse grained with OBO fragments, and coal like material. Saturated. End of Boring	SW			
	-6									
	- 8									
	-1 0									
	-1 2								_	
	-14 -									
	-16									1
	-18									-
-	-20				!					-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= h	yaı	ndotte /	40C6		Log	of Boring SP3	2-2
				P	ID or FID (ppm)	·			Borehole Completion	-
	Depth (feet bgl)	Blow Counts	Sample Becovery (*)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Ρ		1			Clay brown with sand, sit, and gravel.	CL			1
	- -2		60%	1630		Coaly Material brown-black with vesicles.	PT			
	-					No recovery.				-
	-4 -		<u> </u>			End of Boring		<u> </u>		1
	-6									
	- D ₈									
	-			į						
	-10									-
	- - 12									
	-								-	1
	- 14									
	•									1
	1 6									1
	1 8					·				1
}	-20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Orilled (ft.): 4						
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

2			PI	D or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow Counts	Sample Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS	Lithologic Log	Completion	:
2		50%	161.2		Clay brown with sand, silt, and gravel. Sand brown and tan, mottled, fine grained, well sorted with clay and DBO. Tarry Naterial dark brown to black. No recovery.	SC			
4					End of Boring				
3									
3		!			·				
0				•					
2		.						-	
4		;							
6									
8					·				

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF						
Orilling Company: Environmental Science and Engineering, Inc.						
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer					
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 8					
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):					

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte	4006	i	og (of Boring SP3	2-4
18	(jöc			P	(D or FID (ppm)				Borehole Completion	_
	Depth (feet bgl)	Blow	Sample	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft,)
	9	-	1			Clay brown with sand, silt, and gravel.				1
	-					Sand brown with clay, brick, slag, and gravel.	sc	薑		-
	-2		 70%	0.0		Siag Gravel black and yellow.	GW	\$ 0 \$]
	_		1			Sand dark brown, fine grained, and well sorted.	SW			}
	-					No recovery.				
	~ , ტ		70%	0.0		Sand brown, fine grained, and well sorted. Saturated.	SW		·	
	, <u>В</u>						SM.			
	- -10 -					End of Boring				
	-12									4
	- ·								_	
	-14 -									
	1 6								·	
	⊣ 8									
	-20									-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 8/12/96 Date Completed: 8/12/96

Apparent Depth to Saturation While Drilling (ft. bgl):

Ground Elevation (ft.):

Completion Information

· f					 	
1	Grout Interval (ft. bgl): 0-4	Grout	Type:	Bentonite chip	\$	

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP32-5									
et bgi)		(X)	ļ	D or FID (ppm)	Soil/Rock Description	_		Borehole Completion	(tt.)
O Depth (feet bgl)	Blow Counts			Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
<u> </u>			1580		Tar black with some gravel.	PT			4
-2		80%			Coaly Material black with debris and gravel.	PΤ			
4		_₩	18.6		Sand dark brown, fine grained, and well sorted. End of Boring	SW			4
6									-
8				,					-
									1
H0 -									1
-1 2				!				_	
- -14				!					
- -16									
-									-
- 1 8 -									4
-20				,					-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	·
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 8/7/96 Date Completed: 8/7/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

Charle Talancel (61 halls C C	Cravit Turner Depterite obine
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips
10.000 0.000 1.000	C, CC, 1, PC, CC, CC, CC, CC, CC, CC, CC, CC, CC

NO WELL INSTALLED

	Τ			PI	D or FID		Τ		Borehole	
O Depth (feet bgl)	Blow Counts	Sample	Recovery (%)	Values	(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	(tt) collengia
-2		50		0.0 6.8		Clay brown with sand, silt, and gravel. Sand brown, clay, and silt with some gravel. Sand brown, silty with some clay. Coaly Naterial dark brown.	CL SM PT			
4		-)	(-			No recovery.				
6		70	1%	585 610		Sand black, fine grained, clay, and fine grained black coaly material. Saturated. Sand dark grey, fine grained, well sorted with some silt. Moist-	SW			
8			,	140 35.6		possibly compacted by core barrel. Cedar Peat brown. Moist. Sand dark grey, fine grained, well sorted with silt. Moist. End of Boring	PT			
0										
2									_	
4										
6										
8										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Line: Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/7/96 Date Completed: 8/7/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	Γ			dotte A				of Boring SP	ī
pg()			PI	ID or FID (ppm)				Borehole Completion	-
Oepth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
70		1			Clay brown with sand, silt, and gravel.	1 (1			
-			0.0		Sand dark grey, coarse grained with coal fragments and some clay.	GP	\$000 \$000		
-2		30%			Siag dark brown and black, sand, and some clay.				
-4		*			No recovery.				
			8.4		Sand black to dark grey, fine grained with silt. Saturated.	SM			
-6		50%	6.2		Cedar Peat Drown.	PT			
			3.8		Sand dark grey, fine grained with silt. Saturated.	SM			
-8					End of Boring		<u> antigra</u>	ļ	
40									
		l							
1 2									
								-	
14									
16									
.									
18									

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/7/96 Date Completed: 8/7/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 7	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	- 1	W :	yan	dotte	AOC6		Log	of Boring SP	33 <i>A</i>
(ig				PI	D or FID (ppm)				Borehole Completion	
Obpth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-0 - -2		80				Clay brown with sand and silt. Clay brown with sand, gravel, and roots.	CL CL			
-4		\ \ \	<u>, </u>	000		Tar black. No recovery.	PT			
- 6		80		'000÷		Coal Tar black with some wood and sand.	PΤ			
-8				1000+		Sand grey brown, fine grained with silt. Moist. End of Boring	SM			
-										
-										
-1 2									_	
-14										
- ⊣6										
- -18										
-20										

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineerin	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/7/96 Date Completed: 8/7/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of								of Boring SP	33B	
(jōq				PI	D or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow Counts	Sample	- 1	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-2		100:		0.0		Clay brown with sand, silt, and gravel. Clay brown with some fine grained sand. Orange mottling.	CL			
4		*				·	SW			
6		75%					PT SM			
8 10 12						End of Boring *note: PID lamp fails− no PID data acquired.				
20										

Log of Boring SP33Br

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Sc.	ience and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date C	ompleted: <i>8/8/96</i>	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While	Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

		AS	-	W	yar	dotte /	/OC6		Log	of Boring SP3	
	(feet bgl)			(x)	_	ID or FID (ppm)	Soil/Rock Description and	tion		Borehole Completion	n (ft.)
,	Oepth (Blow	Sample	Recovery	Values	Profile		USCS Classification	Lithologic Log		Elevation (ft.)
	-2		10	0%			Clay brown with sand, silt, and gravel. Clay brown, some orange mottling with some sand and silt.	CL			
	-4			_	693		Clay dark grey with diseminated black orgainc material (coal), some sand and silt. End of Boring	CL			-
	6										
	-B - 10										
	- - -12										
	-14									-	
	- ⊣6 -										
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP3											C
	Oepth (feet bgl)	Blow Counts	Sample Recovery (%)	-	(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Borehole Completion	Elevation (ft.)	
	-2		40%	0.0		Clay brown with sand, silt, and gravel. Clay brown, with slag, coal fragments, and some sand.	ᄓ					,
	-					No recovery.						1
	7			1000+		Coaly Material black. Wet.	PT					1
	ф . ф		100%	343 784		Cedar Peat brown-red. Moist. Sand dark brown, fine grained, well sorted with silt. Possibly compacted by coring. Moist.	PT SM					
	- 10					End of Boring		. ——				1
	-12									_		1
	-14											4
	-1 6											
	-18 -											
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THE REPORT OF THE PROPERTY OF

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/8/96 Date Completed: 8/8/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP33										
	Ĝ			P	(D or FID (ppm)				Borehole Completion		
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	1 47	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Leg		Elevation (ft.)	
	Γ		1			Clay brown with sand, silt, and gravel.	CL)			1	
	-2		50%			Clay brown, with coal and sandstone fragments. Wood plug @ 2'.	CL	0 0 0		4	
	-4		*			No recovery.				-	
	-6 -		75%	1000+		Coaly Material black. Wet.	PT			1	
	- 8 -		₩.			End of Boring					
	-10									ļ	
	-								·	4	
}	-1 2									-	
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	-16 -										
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	•
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

									Page 2 0	17 2
	4	ASI	F W		ndotte	AOC6		Log	of Boring SP	33F
	7			P	ID or FID (ppm)				Borehole Completion	
	(feet bgl)		5			Soil/Rock Description and	tion			Elevation (ft.)
	Depth (Blow	ple	Values	Profile	Comments	USCS Classification	Lithologic Log		vatíor
	Ď O	S B	Sa a		ļ	·		Lith Log		<u> </u>
	_					Clay brown with sand, salt, and gravet. Clay brown with gravel and debris.	ريي	0-0-0		
	-2		70*	0.0		Ciay Drown with graver and debris.	CL	0-0-0		
	~ Z	}	70%			Clay black with slag gravel and debris.		0-0-0		
1				49.6		No recovery.	CL	6-6-6		1
	- 4		-* -			End of Boring		<u></u>		1
	-									1
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/9/96 Date Completed: 8/9/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

_ 	
Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	T	T			dotte	T	т	T	g of Boring S	T
þgi)				PI	D or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow Counts	Sample	Recovery (X)		Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
70		ľ				Clay brown with sand, silt, and gravel.	CL			
-2		40	\ 	0.0		Clay brown with sand and occasional gravel or coal fragment.	CL			
-4		->				No recovery.				
6		70) x	7.4		DBO white with sand. Saturated.	CL	X		
8			,	264 1024		Coaly Naterial dark brown, medium grained. Saturated.	PT	* * * * ###		
0	 			1024		Cedar Peat red. Hoist.	PT/			
10		10	x			No recovery.				
				63.9		Clay grey, plastic.	CL			
12						Sand light grey. Saturated. End of Boring	SW/	<u> </u>	_	
4										
6										
8										
20										

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In	nc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= 1	W	yar	ndotte .	40C6		Lo	g of Boring S	SP37
	Depth (feet bgl)	Blow	nple	covery (%)		ID or FID (ppm)	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	- 0 -	S 8	SO SO				Sand brown, fine grained with sit, clay, and gravel. Sand dark brown, fine grained with gravel and coal fragments. Slag Gravel black with sand.	SOSU WW G	1111 300000		
:	-4		<u> </u>	,_			No recovery.				
	- 6		100	0%	0.0		Sand brown, fine grained, well sorted with silt. Saturated. Sand dark grey, fine grained, well sorted with silt. Saturated.	SM SM			
*	-		•	,	0.0		Sand brown, fine grained, well sorted with silt. Saturated.	SM			
	- -10						End of Boring				•
	- -12										
	⊣ 4										4
	⊣ 6										
	-1 8						·				-
	-20										1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 3.6	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	AS	 F	W	yar	dotte /	40C6		Log	of	Boring Si	
	 -		T			O or FID (ppm)					Borehole Completion	
	Depth (feet bgl)	Blow	Samole	Recovery (X)		Profile	Soll/Rock Description and Comments 	Classification	Lithologic Log			Elevation (ft.)
	Ф			1			Clay reddish brown with sand and gravel.	CL.				
	-2		7	0%	0.0		Sand dark reddish-brown with clay, gravel, slag, and brick.	sc				-
	-4				43		as above. Saturated.	sc [
	7						End of Boring					
	-6											_
	-8											_
	⊣ 0											-
	-12											
	-										_	-
ţ	⊣ 4											
	- 16											
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte /	40C6		Log	of Boring SP	37B
	(JB)			P	(D or FID (ppm)		•		Borehole Completion	
	O Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Γ		1	,		Clay brown with sand and gravel.	CL			
	-2 -2		85%	0.0		Clay orange-brown with sand, gravel, mixed with debris, and slag.	CL			-
	-4		*	5.4		Slag Gravel black. Saturated.	GW	<u> </u>		-
ı						No recovery.				
				202	li	Tarry Material black and sandy.	PT			
	6		80%							1
	-			0.0		Sand dark brown and tan, mottled, fine grained, well sorted, and silty. Sand is compact and moist. Probably saturated.	SM			1
	-8					End of Boring				1
					· !					-
	-10									
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	40									ĺ
	⊣ 2		!							1
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ŀ	-20	Ì	-							

Ground Elevation (ft.):

Log of Boring SP38

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 8/12/96 Date Completed: 8/12/96

Total Depth Drilled (ft.): 8

Completion Information

Apparent Depth to Saturation While Drilling (ft. bgl): 6

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	= 1	W	yar	dotte A	VOC6		Lo	g of Boring S	P38
					P	ID or FID (ppm)				Borehole Completion	
	O Depth (feet bgl)	Blow		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-2		60	,	0.0		Clay brown with sand and gravel. Stag Gravel black and yellow with sand and some clay.	CL GP	1 00000		
	-4		X				No recovery				
25.	-6 -		60	- }	204 64 2.7		Siag Gravel black. Saturated. Cedar red.	GW PT SM	000 000 000 000 000 000 000 000 000 00		
	-8		<u> </u>				Sand tan and dark grey, laminated, fine grained, well sorted and silty. Compact. Probably saturated. End of Boring				1
	1 0 - -12						·				4
	-									· —	
-	- -16										-
	-18										
-	20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

В	AS	F	W	yar	dotte A	40C6		Lo	g of Boring S	SP36
Obpth (feet bgl)	Blow	Samole	Recovery (X)		(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-						Ctay brown with sand and gravel.	CL			
-2 -		6	50%	0.0		Slag Gravel black with sand and debris. No recovery	GP	<u>.00.c</u>		
-4		-	*	204	,	Slag Gravel black with sand and debirs.	4	0000		
-6		10	00%	760		Cedar Peat red. Sand light brown and light grey, fine grained, well sorted and silty.	PT SM			
- -8			Y	6.4		Compact. Probably saturated. End of Boring	SM			
-10 -										
⊣ 2 -										
- 14										
- 16										
-1 8 -										
-20					ļ					

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 8/12/96 Date Completed: 8/12/96

Apparent Depth to Saturation While Drilling (ft. bgl): Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	-	W	yan	dotte A	v0C6		Lo	g of Boring S	P40
	(lbq				PI	D or FID (ppm)				Borehole Completion	•
	Depth (feet bgl)	Blow Counts	Sample	Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft,)
	Ю						Clay brown with sand and gravel.	리			
	-						Clay brown and sandy.	CL			-
	-2 -		80	0%	902		Coaly Naterial dark brown.	PT			-
	-4				90.2		Clay dark grey with sand and speckled white DBO fragments.	CL			
	- -6 -						End of Boring				-
	-8 -										1
	-10 -										4
	H2 -										-
	⊣ 4									•	
	⊣ 6										1
Þ	-18 -										
	-20				- 1						4

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, I.	nc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	BASF Wyandotte AOC6						Log of Boring SP41				
	bg()			PID or FID (ppm)					Borehole Completion	-		
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)		
	-					Clay brown with sand and gravel.	CL					
	-2		80%			Clay dark brown with sand, silt, and debris.	CL					
ł	-4		*	38		Peat dark grey with sand. Saturated.	PT	<i>37 37</i> 2		4		
-						No recovery.		17-27-2		4		
	.	i		163		Cedar Peat red. Noist.	РТ]		
	-б		90%	5.8		Sand dark grey and tan, fine grained, well sorted, and silty. Compact.	SM					
7	8					End of Boring				1		
ł	•									1		
-	1 0		,									
]		
t	1 2					·				1		
ł									~	4		
-	1 4									1		
]		
ŀ	1 6									1		
\mid										+		
_	-18									1		
#												
ŀ	-20								Ī	1		

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2" Total Depth Drilled (ft.): 4						
Date Started: 8/12/96 Date Completed: 8/12/96							
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):						

Completion Information

lla	1
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips
rdioul Interval III. Dan. U-4	TOTOUL TYDE. DEFILORICE CHIDS
1	10.000 . Jpor

NO WELL INSTALLED

	В	BASF Wyandotte AOC6						Log of Boring SP4			
	bgl)				PI	D or FID (ppm)				Borehole Completion	t.)
	O Depth (feet bgl)	Blow Counts		Recovery (X)	Values	Profile	Soil/Rock Description and Comments	Classification	Lithologic Log		Elevation (ft.)
	-						Clay dark orange and brown, mottled with sand and gravel.		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	-2		95	×	0.0		D80 tan with sand.	L ×	^ x x x x x x x x x x x x x x x x x x x		-
	-4		\	- -	994		Coaly Material black. P1 End of Boring	T			-
	- -6 -						·				-
	- 8										
	-10 -						Y				
	⊣ 2										
	⊣ 4										
	- -16										
E.	-18 -										
	-20				ł						

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF						
Drilling Company: Environmental Science and Engineering,	Inc.					
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer					
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"					
Date Started: 8/12/96 Date Completed: 8/12/96	Total Depth Drilled (ft.): 8					
Apparent Depth to Saturation While Drilling (ft. bgl): 6	Ground Elevation (ft.):					

Completion Information

	and the second second second second second second second second second second second second second second second
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

 В	BASF Wyandotte AOC6						Log	of Boring SF	41B
(jo	PID or FID (ppm)				·			Borehole Completion	_
Obpth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
ľ					Clay brown with sand, gravel, and silt.	CL		_	
-2		90%	0.0		Clay dark brown with black slag gravel and sand.	CL	0-0-0	Ì	
-4	'		0.0		DBO tan.	CL	× × × × × × × × × × × × × × × × × × ×		4
-					Coaly Material black to dark brown. No recovery				4
-6		50%	190		Slag Gravel black with sand. Saturated.	GW	000		
-8		*	63		Sand grey-brown, fine grained, well sorted, and silty. Compact. Probably Saturated. End of Boring	SM			-
- 10									
- 12								_	4
- 14								·	
- 16									
- 18									
-20									

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Cilent: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch Drilling Method: Hydraulic Hammer							
Soil Sampling Device: 4'Lined	Borehole Diameter (in.): 2"						
Date Started: 8/12/96 Date Comple	ted: 8/12/96	Total Depth Drilled (ft.): 8					
Apparent Depth to Saturation While Drilli	Ground Elevation (ft.):						

Completion Information

	,
lla	
Grout Interval (ft. bgi): 0-8	Grout Type: Bentonite chips
I follout triter var (it. bgi).	Idioul labe. Delitorite chips

NO WELL INSTALLED

(ja				PI	D or FID (ppm)				Borehole Completion	
Depth (feet bgl)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		
2		95		0.0		Clay brown with sand, gravel, and silt. Clay brown with sand, gravel, and some debris.	CL			
4		*		3.8		Clay black with sand and some silt. No recovery	CL			
3		70	*	9.8		Coke dark brown and crumbly. Coke dark brown and granular. Saturated.	PT			
3		\ \ \		6.2		Sand light brown, fine grained, well sorted, and silty. (Compact). End of Boring	SM			
0										
2									-	
4			.							
6										
3										

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF			
Drilling Company: Environm	ental Science and Engineering, Ind	Ç	
Drilling Rig: Keck (TM) Soil	Drilling Method: Hydraulic Hammer		
Soil Sampling Device: 4'Lin	Borehole Diameter (in.): 2"		
Date Started: 8/12/96	Date Completed: 8/12/96	Total Depth Drilled (ft.): 8	
Apparent Depth to Saturat	Ground Elevation (ft.):		

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP42A								
	(lbq			P.	(D or FID			Borehole Completion	
	O Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	<u> </u>	Classification Lithologic Log		Elevation (ft.)
						Ctay brown with sand, gravel, and silt.			1
	-2		95%	0.0		Clay grey-brown, sandy with DBO speckling. DBO grey and orange, mottled, and sandy. CL	X X X X X X X X X X X X X X X X X X X		
	- 4		*	0.0		Coke Naterial dark brown.	* ^ * ^ *		4
				0.0		No recovery PT			
	-					Coke Naterial dark brown.	×××]
	-6		90%	6.8		DBO dark grey and plastic. Saturated.	\		
	-			2301		Coke Naterial dark brown and granular.			-
*	8		*	163		Sand dark brown becoming brown, fine grained, well sorted and silty. Saturated.			1
	- ⊣o				,	End of Boring			
	⊣ 2				·			-	
	-14 -								
	⊣ 6								1
	-18 -								-
	-20								1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer							
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 8/12/96 Date 0	Total Depth Drilled (ft.): 8							
Apparent Depth to Saturation While	Ground Elevation (ft.):							

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP43								P43	
	66			P	ID or FID (ppm)				Borehole Completion	_
	Oepth (feet bgl)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	7					Clay brown with sand, gravel, and silt.	다			1
	-			0.0		Clay brown with abundant cobbles.	CL			4
	-2				·	Clay dark brown with black coal like fragments. No recovery. (Hard clay plug in end of tube. Tube is wet.)				-
	-4					No recovery.				
	-6			1125		Coal Material dark brown. (Probable sluff).	РΤ			
				2745		Coal Naterial black. Saturated.	PΤ		·	
	-8			2100		Sand light grey-brown, fine grained, well sorted and silty. Saturated. End of Boring	SM			
	- -10	,							-	
	-1 2								_	
	-14									
	-16									1
黎	- 18									4
	-20									

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	- h	lya	ndotte .	AOC6		Lo	g of Boring S	P44
Oepth (feet bgl)	Blow Counts	Sample	\perp	PID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
- -2 -		100			Clay brown with sand, gravel, and silt. DBO grey and sandy. Vertical fractures with orange mottling.	CL.	X		
Ψ , - φ		_₩	306		Coaly Material black. End of Boring	PT			-
- 8									1
+0 - +2									
- - -14									
-16 -									
-18 -20									

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engine	eering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Samp	ler Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/	796 Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl)	: 5 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	- - 1	۷)	/ar	dotte i	40C6		Lo	g of Boring S	P45
	1960				P	D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample	Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Ю		1				Clay brown with sand, gravel, and silt.	CL)	×××		
	-2 -2		100	1%	0.0		DBO grey and sandy.	CL	X		4
	4		*		14.2		Coal Naterial black.	PT			
	-6		90:	×			DBO dark grey. Saturated.	CL	x x x x x x x x x x x x x x x		
	-				119		Coal Deposit dark brown and granular. Saturated.	РТ	×××		4
1	8				94		DBO dark grey and roots. Saturated.	CL	× × × × × × × ×]
	- H0 -					•	End of Baring				
	- - -14									-	
	- ⊣6										-
	- -18										
	-20										1

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

		Γ	_		ID or FID (ppm)		$\overline{\mathbf{I}}$		g of Boring S	
Oepth (feet bgi)	Blow	Sample	Recovery (X)	Values	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Clouding 144.1
2			2%			Clay brown with sand, gravel, and silt. Clay light brown with fine grained sand and some gravel.	G G			
				0.0		Slag black to dark brown (cobble size), sand and some clay.	GW	000		
4			-			No recovery.				
6		60	ንሄ	93		DBO dark grey. Noist, probably saturated. Coal Naterial dark brown and granular. Saturated.	PT	×××		
3			<u>. </u>			End of Boring .				
0										
2									_	
4										
3										
3										
0										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and	Engineering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Stee	Sampler Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed:	8/13/96 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (t. bgl): 3 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6 Log of Boring SP47											
						D or FID (ppm)					Borehale Completion	
	O Depth (feet bgl)	Blow Counts	Sample	RECOVERY (X)	Values	Profile	Soil/Rock Description and Comments	nscs	Classification	Lithologic Log		Elevation (ft.)
	-2				0.0		Clay brown with sand, gravel, and silt. Clay brown and grey with coal and DBO fragments.	c	L		,	
	-4				2300		Coaly Material black. No recovery. (Probably soft DBO underneath which cannot support the entry pressure of the core barrel.) End of Boring	Р				
	6											
•	- 8											
	1 0										·	
	-12 - -14					į					-	
	-16					·						
	-18											1
	-20											-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sample	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/9	6 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	4 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	<u> </u>								, age 2 a	
_	В	ASF	= W	_	ndotte /	40C6	-	Lo	g of Boring S	P48
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	<u> </u>	ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-2		90%	a.o		Clay brown with sand, gravel, and silt. Slag Gravel black and yellow with sand.	CL GW			-
	4 6			48.8		Sand light brown, fine grained, well sorted, and silty. Saturated. End of Boring	SM			-
	- 1 0									-
	-12 -14								_	-
	-16 -18									-
	-20									

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental S	Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date	Completed: 8/13/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation Wh	ile Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	ndotte /	40C6	<u>-</u>	Lo	g of Boring S	P49
**	(go			P	ID or FID (ppm)				Borehole Completion	
	Oepth (feet bg!)	Blow Counts	Sample Recovery (%)		Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Γ0		1			Clay brown with sand, gravel, and silt.	CL GW	<u> </u>		1
	-			0.0]	Slag Gravel dark grey and orange, sand, and clay.		, ×, ×,		1
	-2 - -4		50%	0.0		DBO tan and sandy. No recovery.	CL	* * * * * *		4
	- 6		80%	0.0		Construction Naterial tan. (Concrete cobbles).	GW	000000 00000 00000		-
	-8					DBO light brown and sandy.	CL	C×C×C C×C×C		
	- 1 0 -					End of Boring			· .	
	-14 -									
	-1 6 -					·				
	-18 - -20									1

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	= W	yar	dotte /	70C6		Lo	g of Boring S	P50
Obpth (feet bgl)	Blow Counts	Sample Recovery (%)	-	ID or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-2		65%	6780		Clay brown, with sand, gravel, and silt. Clay white with sand. Slag Gravel dark brown and black with sand and coal. Coal Material dark brown.	C C GW	000		4
-4		-			No recovery. Liner wet on tip. End of Boring				
-6									-
-B - -10									
- 1 2								_	-
-14									
-16									
1 8									1

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

1		
	Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte /	70C6		L	og of Boring (SP51
**) jec			P	ID or FID (ppm)				Borehole Completion	
	Oepth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Clay grey-brown, with some sand and gravel.	CL			
	-2		60%	8794		Coal Naterial dark brown to black.	РТ			
	- -					Na recovery.				.
	-4		₩			End of Boring	ļ	J		-
ļ	-									
	- 6									
	-8]
	•									
	-10									1
	-									4
	- 12									1
	-									1
	⊣ 4									4
	-									4
ŀ	- 16									4
	-18									
	-20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgi): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	BA	SF	- W	yar	ndotte A	10C6		Lo	g of Boring S	
				P	ID or FID (ppm)				Borehole Completion	
O Depth (feet bal)	No.	Counts	Sample Recovery (x)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Clay brown, with sand and gravel.	CL			-
-2			80%	6830		Coal Material black.	PΤ			-
						No recovery.				_
						End of Boring	_			
										-
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	7, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	- W	yar	dotte A	40C6		Log	of Boring SPE	52-1
(lbg			P	ID or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						CL]
-2		50%	2880		Coal Naterial dark brown.	PT			
-					No recovery.				-
- 4		_₩_			End of Boring				1
-6									-
- -B									
- ⊣o									
- ⊣2								_	
⊣ 4									
⊣ 6									1
-18 -									
-20									-

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ring, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	7 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP52-2										2-2
	(jög			Р	ID or FID (ppm)				Borehole Completion	-
	Depth (feet bgi)	Blow Counts	Sample Recovery (%)	1 4/	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	₽		1			Clay brown with sand, gravel, and silt.	CL/			• 1
	_			0.0		Clay grey and tan, mottled with some sand.	CL			1
	-2		80%	0.0		Coal Naterial black and brown with sand and brick fragments.	PT			
	_		1			Clay grey with sand and DBO.	CF			
	-			8.8	<u>.</u>	Sand dark grey, fine grained, well sorted, and silty. Moist.	SM			4
						No recovery.				
	₹ , φ		95%			Sand dark grey, fine grained, well sorted, and silty. Moist.	SM			-
	-			68.6	}	Cedar Peat red.	PT			
	8		Ţ	16.2		Sand dark brown, fine grained, well sorted, and silty. (Compact). Saturated.	SM			İ
	- ⊣0 -					End of Boring				
	_ -14 -								_	
	- 16									
*	-18 - -20									

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF					
Drilling Company: Environmental Science and Engineering, Inc.	•				
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer				
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"				
Date Started: 8/13/96 Date Completed: 8/13/96	Total Depth Drilled (ft.): 8				
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):				

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP53										SP53
	Depth (feet bgl)	Blow	Sample Recoverv (%)		ID or FID (ppm) Profile	Soli/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	Ю		1			Clay grey-brown with sand and gravel.	CL			-
	}			0.0		Siag Gravel black and white with sand.	GW			_
	-2 -		90%	ľ		No recovery. End of tube is moist.				-
	- -6		100%	0.0		Sand grey-brown, fine grained, well sorted, and silty. Saturated.	SS.			1
	-8					End of Boring			·	
	- ⊣0					·				-
	−1 2									-
	- -14									
	⊣ 6					-				
	-18 -									
	-20									4

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4'Lined Steel	Sampler Borehole Diameter (in.): 2"						
Date Started: 8/14/96 Date Completed:	8/14/96 Total Depth Drilled (ft.): 4						
Apparent Depth to Saturation While Drilling (t. bal): Ground Elevation (ft.):						

Completion Information

	. ,
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	Page 2 of 2									
	BASF Wyandotte AOC6 Log of Boring SP54									
	6			PI	(D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)		8	55		Soil/Rock Description and	tion			Elevation (ft.)
	epth (Blow Counts	nple	Values	Profile	Comments	USCS Classification	Lithologic Log	ŕ	evatio
	ā P	83	Se Se			Clay brown with sand, gravel, and silt.	Sn C	Lith		<u> </u>
	_			0.0		Slag Gravel black. SAMPLE TAKEN.	GW	000000		
	<u>-2</u>		60%					000		
						No recovery.				
	-4				!	ne recertif.				
						End of Boring				1
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	-18									1
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/25/96 Date Completed: 9/25/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

	, — — —
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC6 Log of Boring SP54										
	(lgc			PI	O or FIO (ppm)				Borehole Completion	
	O Depth (feet bgl)	Blow Counts	Sample Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	70					Grass/Topsoil.		•-•-•		1
	-			- 10		Sand brown.	SW			4
	-2			5/0		Tar & asphalt grinds.	PΤ			-
					i	Sand dark brown, silty,	SM			
Ī	-4					End of Baring				1
ŀ	•									4
-	-6									4
-										4
	8				:]
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-	20									-

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	2.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/25/96 Date Completed: 9/25/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 3	Ground Elevation (ft.):

Completion Information

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	l
Grant Interval (ft hall: $\Omega = A$	I Craut Tunni Dontonito chine
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips
1) = : * = = : /

NO WELL INSTALLED

	В	ASF Wyandotte AOC6							Log of Boring SP54B			
	(lg)			P	(D or FID (ppm)				Borehole Completion			
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)		Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)		
	Γ		1			Topsol with grass.	CL			1		
	2		90%	5.0		Sand brown, fine-nedium grained fill. Asphalt Grinds black, gravelly.	SW GP			4		
						Sand dark brown, fine grained, and silty.	SM					
	- 4					End of Boring		an in ya da ya na na ya		1		
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	-18 -									1		
	-20									1		

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/14/96 Date Completed: 8/14/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= W	yar	dotte /	40C6		Lo	g of Boring S	
	(lōc			P	ID or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	Q -2 4 6 8	80	80%			Clay brown with sand, gravel, and silt. Clay black with slag gravel. Coal Naterial dark brown. SAMPLE TAKEN. Slag Gravel black. Moist. No recovery. End of Boring	ᄗ			
	12									
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Ir	nc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/25/96 Date Completed: 9/25/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 3.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= v	lу	an	dotte /	40C6		Log	of Boring S	
	(10<				ΡI	D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts		necovery (x)	Values	Profile	Soil/Rock Description and Comments ഗ	Classification	Lithologic Log		Elevation (ft.)
	- 0		1	T				:L	===		1
	-						Clay with sand.	;L			
	-2 -		90	K (0.0		Asphalt Grinds black, gravelly.	SP			
[- 4		V		ļ		Sand dark brown, fine grained, and silty. Saturated.	М			
	4			1			End of Boring				
	-6 -										-
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	-10 -										-
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/14/96 Date Completed: 8/14/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

- 1		· · · · · · · · · · · · · · · · · · ·
1	Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- h	yaı	ndotte /	40C6		Lo	g of Boring S	$\overline{}$
	it bgi)			<u></u>	ID or FID (ppm)	Soil/Rock Description	ء ا		Borehole Completion	(11.)
	Depth (feet bgl)	Blow	Sample	Values	Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-0		1			Clay grey with gravel and coal.		0-0-	_	1
	-2 -		95%	363		Coal Naterial dark brown.	PT			-
ł	-4		_₩_	393		Sand light brown, fine grained, well sorted, and silty. End of Boring	SM			-
	-6					- Elia di Boning				
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, I	īnc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/14/96 Date Completed: 8/14/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips
Ci odi ziitti idi. (iti bgi).	Ologi Type: Demonite dispo

NO WELL INSTALLED

	В	ASI	=	W	yaı	ndotte	40C6		Log	of Boring SPE	56-1
*					P	ID or FID (ppm)				Borehole Completion	_
	Depth (feet bgl)	Blow	Sample	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS	Lithologic Log		Elevation (ft.)
Ī	-0		,	1			Coal and cobbles.	РТ			_
	- -2		9	5%			Clay tan with sand and gravel.	CL			-
					0.0		Siag Gravel black.	GW	00000		•
1	-4		L			1	No recovery. Core tip wet.				_
					20.1 16.8		Sand black, fine grained, and well sorted.	SW	ב נב נכ		-
1							Red Cedar	SM			
ŀ	6		40)% 	9.7	}	Sand dark grey, fine grained, well sorted, and silty. Saturated.				~
-							No recovery.				•
	8					1		<u></u>			
							End of Boring			Ĭ	
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, 1	'nc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

Explanation & Comments

	В	ASI	= W	yar	dotte /	40C6		Lo	g of Boring S	SP57
	Depth (feet bgl)	Blow Counts	nple	90	(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0	සි දු	Sa Sa			Clay brown with sand, gravel, and silt.	Cr Sp. Sp.	± 200		<u> </u>
						Clay with tan cobbles, sand, and gravel. Moist 2" layer 8 1'.	CL	-0-0-	•	
	-2		60%	0.0		Stag Gravel black with concrete cobbles.	GW	000000		-
						No recovery.				
	-4		1	4.2		Sand black, fine grained, well sorted, and silty. Saturated.	SM			-
	- -6 -		20%			No recovery.				_
	-					End of Boring				
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	-1 8								,	
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ing, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	7.5 Ground Elevation (ft.):

Completion Information

General Telescol III helb 0 0	for the manufacture of
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips
The state of the s	or out 1 por Barrer and or mpo

NO WELL INSTALLED

	В	ASI	=	W	yar	dotte /	/OC6	 .	Log	of Boring SP	57A
	(jbd				P	ID or FID (ppm)				Borehole Completion	7
	Obpth (feet bgl)	Blow Counts	Sample	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-				0.0		Sand dark brown with clay, silt, debris, and coal fragments.	SM			-
	-2		10	0% 	0.0		Coal Naterial brown.	PT			
						ľ	Clay dark grey with sand and gravel.	CL			
	-4		-		143		Sand dark grey, medium grained, poorly sorted with gravel and slag.	SP	• •		_
	- 6		40	2%			No recovery.		·		
	-				163 182		Sand black, fine grained, and well sorted. Saturated.	SW	וריינים מרשים		4
	-8			4	.01		Cedar Peat red.	PT SM			4
							Sand dark grey, fine grained, well sorted, and silty. Saturated.				
	-				٠		End of Boring				1
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	·
Drilling Company: Environmental Science and Engineer	ing, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 3	Ground Elevation (ft.):

Completion Information

Consul Indonesia (44 hould Co. C.	Barry Trans. Barrierite attack
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips
1	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -

NO WELL INSTALLED

Explanation & Comments
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	В	ASI	=	W	yar	dotte	AC)C6		Lo	g of Boring S	P58
	(jgg				Pi	(D or FID					Borehole Completion	~
	Depth (feet bgl)			B	_			Soil/Rock Description and	5			Elevation (ft.)
	٤	[<u> </u>	2	Values	Profile		Comments	USCS Classification	용		fon
	e p t	Blow Counts	뤁	COVE	> ا				USCS Classif	Lithologic Log		leva
	- D	8 8	S	Re			$oldsymbol{\perp}$			33		"]
			1				T	Clay brown with sand, gravel, and silt.	CL.			
	_2 -2		60		0.0			Sand black, fine grained with black diseminated coal. SAMPLE TAKEN.	SW			
	-							Gravel grey with sand. Saturated.	GW		·	
	-4		-	<u></u>				No recovery				4
	_				10.1			Sand black, fine grained, well sorted and silty with brown mottling.	SM]
					19.1		A	Saturated.	(<u> </u>			1
	6		90	1%	10.0		1	Cedar red.	SM			4
					16.8		-	Sand black and brown mottled, fine grained, well sorted, and silty.				1
	-		1	1			\vdash	Clay brown. Plastic.	СН			
8				.	0.0		L	Clay dark brown with sand and organic material. Plastic. Not wet.	CL		1	İ
	-8			٦	3.8		T	Clay grey. Plastic.	CL)			1
				1				End of Boring				
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 8	Ground Elevation (ft.):

Completion Information

	<u> </u>
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC6							Log of Boring SP59					
	(lgc			P	ID or FID (ppm)				Borehole Completion	-			
	Obpth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)			
	0		1			Clay brown with sand, gravel, and silt.	٦						
	-2		70%	0.0		Clay tan and light grey mottled with sand.	CL			-			
	-4		*			No recovery.				-			
	-6		70%	3.2		Sand dark brown and black, laminated, fine grained, and well sorted. Saturated. (High graded black sand PID 30.7)	SW			-			
	-8		<u> </u>			End of Boring				-			
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Orilling Company: Environmental Science	e and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Compl	eted: 8/15/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drill	ling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type:	Bentonite chips

NO WELL INSTALLED

	В	ASI	= N	Муг	an	dotte /	A0C6		Lo	g of Boring S	
獲	()60				PI	D or FID (ppm)				Borehole Completion	-
	Depth (feet bgl)	Blow	Sample	Recovery (X)	A GIOCES	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	9		1	_			Clay brown with sand, gravel, and silt.	CL			1
	2 		90	%	0		Clay brown with sand, gravet, and coal fragments.	CL			-
	4		*	_ o.	٥		Sand brown, medium grained, and medium sorted.	SW			4
	- -		90	28	14		No recovery. Coaly Material brown. Saturated & 5.5'.	РТ			
·				14	7		Sand black, oily, fine grained and silty	SW			
	-8						End of Boring	F	***************************************		1
	- ⊣o -										4
	-1 2									_	
	⊣ 4										
	1 6										1
	-18										1
	-20										

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= 1	W:	yar	dotte A	/0C6	Log of Boring SP60-1						
	þĝi)				P	(D or FID				Borehole Completion	2			
	$^{ m c}$ Depth (feet bgl)	Blow Counts	Sample	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)			
	٦						Clay brown with sand, gravel, and silt.	٦			1			
	- -2 -		85	×	0.0		Clay brown with sand, some gravel, and silt.	CL			-			
	4			_	0.0		Clay light grey, with sand and white DBO speckles.	CL		·				
	Ф		90	×			as above. Saturated.	CL			- 1			
強	-				6780		Coaly Naterial brown. Saturated.	PΤ			-			
	'8						End of Boring	Ll			1			
	TO					:					4			
	-10										1			
	⊣ 2 -						•			_	1			
	-14 -										4			
	- 16										1			
	- -18 -													
	-20													

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In	nc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 3.9	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

Exp	lanat	ion €	Comment	t s
-----	-------	-------	---------	-----

 								og of Boring (370 	
(jö				PII	O or FID (ppm)				Borehole Completion	
Oepth (feet bgl)	Blow	ample	COVERY (A)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-o	<u> </u>	S A		+		Clay grey-brown with sand, gravel, and sill.	Cr S g	52		
- -2 -		95%		0.0		Clay grey and tan with sand. Mottled.	CL			
- 4			_ 10	B.1		Coaly Material dark brown and black. Possibly saturated @ 3.9'.	РТ			
						End of Boring				
-6										
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-10										
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BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineers	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/25/96 Date Completed: 9/25/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 3	2 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	= W	yar	ndotte /	70C6		Log	of Boring SF	
	Depth (feet bgl)	Blow	8	P	ID or FID (ppm)	Soil/Rock Description and Comments	T	Log	Borehole Completion	Elevation (11.)
	Ρ	<u> </u>	1			Topsoil and grass.				1
	-2		75%	0.0		Sand fine grained, mixed with DBO and clay. Moist.				1
	-4					Sand dark grey, fine to medium grained. Saturated. SW End of Boring	,			
	-									-
	-6 -									
	В									
	-									
	- 1 0 -									1
	-12		-						·	
	-									4
	-14 -									
	1 6									
	-18 -									
ŀ	-20									4

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engine	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sample	r Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/9	6 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

			7
İ	Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips	l

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A		Lo	g of Boring S	P62	
	(15)			PI	(D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-0		1			Clay brown with sand, gravel, and silt.	(CL)			1
	-					Clay brown with sand, gravel, and coal fragments.	CL			-
	-2 -		90%	0.0		DBO tan. Plastic.	CL	x x x x x x x x x x x x x x		- - - -
	-4			13.8		Coaly Naterial dark brown.	PT			
	-					End of Boring				
	-6				:					1
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	-10									-
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	18									4
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/25/96 Date Completed: 9/25/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	=	W	yar	dotte /	40C6		Log	of Boring SP	
	Depth (feet bgi)		9	very (X)		(D or FID (ppm)	Soil/Rock Description and Comments	USCS Classification	ogic	Borehole Completion	Elevation (11.)
	og Geo	Blow	Samp	Reco				Class	Lithologic Log		Elev
	-2		85	5×			Topsoil and grass. Clay dark brown, some sand, fine, peds, appearance of old topsoil. Moist.	CL CL			-
	-4		_,	,	>15.0		Clay with sand and strong odor. Saturated. End of Boring	CL			
	-6										
***	- 8						·				
	- 10										
	⊣ 2	,									
	-14					l					1
	⊣ 6										
	-1 8						·				
	-20										

BASF Wyandotte AOC6 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Orilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

				dotte .		Γ		g of Boring S	
O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	-	(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Elevation (11.)
-2		60%	0.0		Clay brown with sand, gravel, and silt. Slag Gravel black with some sand and debris. SAMPLE TAKEN. DBO white-tan.	GW			
4					No recovery. End at Baring				
6					·				
8									
10									
2								-	
14									
16									
20									

BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4'Lined Steel Sampler

Date Started: 8/15/96 Date Completed: 8/15/96

Apparent Depth to Saturation While Drilling (ft. bgl): Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

В	AS	F	W		dotte /	AOC6		Lo	g of Boring Sf	P8-
paq)				PI	(D or FID (ppm)				Borehole Completion	3
O Depth (feet bgl)	Blow	Samole	Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS	Lithologic Log		Elevation (ft,)
Γ						Clay brown with sand, gravel, and silt.	CL			
-2		6	0%	0.0		Siag Gravel black and yellow with sand.	GW			
-4						No recovery.				
-						End of Boring				
6									·	
-8										
10										
12										
14										
-										
16										
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BASF Wyandotte AOC6

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4'Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/15/96 Date Completed: 8/15/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl): 2	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout 7	Type:	Bentonite chips	

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	70C6		Lo	g of Boring S	SP65
	(jg.			P	ID or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	9					Clay brown with sand, gravel, and silt.	<u>(</u> 6	0 0		1
	_					Clay brown with sand, gravel, and coal fragments.	CL			-
	-2			0.0		Slag Gravel black with sand. SAMPLE TAKEN.	GW	000		
	2					As above. Saturated.	GW	000		
	-			:	·	Na recavery.				-
	-4					End of Boring				-
	-6									-1
	- 8									
	⊣ 0 -					·				-
	- 12								_	-
	-14									-
	- -16 -									1
*	-1 8									1
}	-20									1

Soil Boring Logs for AOC 7

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/22/96 Date Completed: 8/22/96	Total Depth Drilled (ft.): 16
Apparent Depth to Saturation While Drilling (ft. bgl): 4.5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-16 Grout Type: Bentonite chips

NO WELL INSTALLED

		Τ		PI	D or FID				Borehole	
Depth (feet bgl)	Blow	Sample	Recovery (X)		(ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	
)		,				Sand tan, fine grained, some gravel with silt. Dry.	SP	• • •		
				o		Sand black, same as above (SAA).	SP	0		
2		10	0%			Sand dark brown to brownish-orange, (SAA) with slight blue cast. Moist.	SP			
1				í		Sand dark brown, (SAA) with more silt, trace clay, w/ slight blueish cast and trace/some gravel. Moist.	SM			
}		100		5 3/ >100		Sand black, oily with strong petroleum odor, and fine gravel. Grades to less gravel and more silt with depth. Saturated © 4.5'.	SP			
,			<u> </u>			Clay dark brown to black with sand, sit, soupy with sheen. Saturated.	СН			
0		0:	x			No recovery.				
2		*	-							!
4		100	2			Clay SAA, soupy-black with sheen.	СН			
3		_\$	-			End of boring.				
}										

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer							
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Dlameter (in.): 2"							
Date Started: 8/22/96 Date Completed: 8/22/96	Total Depth Drilled (ft.): 12							
Apparent Depth to Saturation While Drilling (ft. bgl): 5.5	Ground Elevation (ft.):							

Completion Information

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Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

 BASF Wyandotte AOC7 Log of Boring SP02									
			ļ	ID or FID (ppm)	Sall/Deal, Description			Borehole Completion	74.)
O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification			Elevation (ft.)
					Sand tan, fine grained with gravel. Dry.	SP	0.0		
-2 -		75%	0/0		Sand blue, red, tan, white, fine to medium grained, dry, and some fine particles of slag.	SW			-
-4		+	0/0		Sand reddish-orange, fine to medium grained with trace slag and gravel. Dry to moist.	SP			-
•			0,0		Sand, as above reddish, got coarser with depth (6" zone of blue).	SP	0 0		1
-6		75%	0/1		Sravel dark brown to black, fine with medium grained sand. Saturated 0 5.5'.	GW			
-в		*			Sand black, fine grained with trace sit. Saturated.	SW			-
1 0		25%			Sand tan, fine grained with trace silt. Saturated.	SW			
1 2					Clay brownish-grey and stiff. Moist.	CL			
				ı	End of boring			_	
-14									
-16									
18									
20									-

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4' Lined Steel Sampler

Date Started: 8/28/96 Date Completed: 8/28/96

Apparent Depth to Saturation While Drilling (ft. bgl): Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

B	BAS	3F	M	yaı	ndotte	AC	0C7		Lo	g of Boring S	SPO3
) (jego				P	PID or FID (ppm)					Borehole Completion	
Depth (feet bgi)	Вюм	Counts	Sample Recovery (X)	Values	Profile		Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
Р			1			$\overline{\Lambda}$	Sand light grey, fine grained with clay, silt, and abundant gravel.	CL			
}							Sand red-brown, fine grained, well sorted, silty with trace clay and gravel. Linonite staining. SANPLE TAKEN.	SM			
-2			70 %				Clay grey with fine grained sand and fine gravel.	CL			
							No recovery.				
4							End of boring				
İ											
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer							
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"							
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4							
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):							

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

-	BASF Wyandotte AOC7 Log of Boring SP04									
	pā _l)			P	ID or FID (ppm)				Borehole Completion	13
	Depth (feet bgl)	Blow Counts	Sample Recovery (X)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	70					Clay brown with sand and sit.	CL	5-5-1		
	-2		70%			Concrete Debris light grey with sand.				
	-					Clay grey with sand, fine gravel, and trace red brick material. SAMPLE TAKEN. No recovery.	CL		·	
	-4		*			End of boring				1
	6									
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	-8									
	•									1
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Enginee	ring, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/96	6 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP05										
**************************************	(jgc				ΡI	D or FID (ppm)				Borehole Completion	
	Depth (feet bgi)	Blow Counts		Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	* .	Elevation (ft.)
i	9		1	1			Clay brown with sand and roots.	CL			1
	-						Sand grey, fine grained with clay, silt, and gravel.	sc			-
	-2		90	×			Clay dark brown and grey mottled with some sand, gravel, and coal fragment. SAMPLE TAKEN.	CL			-
J	- 4		<u></u>	_ļ			No recovery.				
	-						End of boring				
	-6 -										
	-8 -										-
	1 0										-
	- 12						·				4
	-14 -										-
	-1 6										
	-18										
-	-20										4

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science and Engineering, Inc.							
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"						
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4						
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):						

Completion Information

	·
Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC7 Log of Boring S								P08	
) _g			PI	D or FID (ppm)				Borehole Completion	
Depth (feet bgi)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments ഗ ഗ്ര	Classification	Lithologic Log		Elevation (ft.)
0		95%	0.0		Clay brown with sand, silt, and gravel. Silt grey-brown with clay and cobblestones. Sand black with silt and gravel. DBO tan and sandy. Clay brown-grey with sand, gravel, and coal fragments.	CL ML SM CL CL			

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Dlameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring S									g of Boring S	
	(jåq				P	D or FID (ppm)				Borehole Completion	-
	Obpth (feet bgl)	Blow	Sample	Recovery (X)	Values	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	-0		(Clay brown with sand.	CL			1
	-						Clay dark brown to black with sand and silt.	CL			
							Prussian blue,	CL	x x x		j
	-2		90	2%			080 tan.				4
ļ	-						Sand orange, fine grained, well sorted with limonite staining.	SW			1
	-4		L				No recovery.]
	 +	į					End of boring				1
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Log of Boring SPO7RI

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and	ngineering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel	Sampler Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed:	/28/96 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (f	bgi): Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC7							Log of Boring SPO7RI						
	(lgc				PI	D or FID (ppm)				Borehole Completion			
	Depth (feet bgl)	Blow	Sample	Values	* and *	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)		
	- ∪		1				Clay brown with sand.	راك			1		
	-				1		Clay dark brown to black with sand and silt.	Cr			-{		
	_				Ì		Prussian blue.	<u>CL</u>	x x x				
ļ	-2		90: J	ا*			DBO tan.	SW			1		
	-						Sand orange, fine grained, well sorted with limonite staining.	5W			4		
ļ	-4		1	4	1		No recovery.				1		
					ļ		End of boring						
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Log of Boring SPO7RII

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

				 					rage 2 0		
В	ASI	= W	yar	ndotte /	AC	OC7	L	og o	of Boring SP07R		
7			P	ID or FID (ppm)					Borehole Completion	_	
Depth (feet bgl)		3				Soil/Rock Description and	50 E			Elevation (ft.)	
E S	Blow	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Values	Profile		Comments	USCS Classification	Lithologic Log		vatío	
-0	Blow	Samp					USC	Litho Log		Ele	
Γ					L	Clay brown with silt and roots.	CL			}	
-						Clay dark grey to black with sand and gravel.	CL			1	
-2		 85%			F	DBO tan with red brick, sand, and gravel. SAMPLE TAKEN.	CL			4	
						Sand light orange-brown, fine grained , and well sorted.	SW			1	
					Γ	No recovery.				1	
-4		*	1		\vdash	End of boring	<u></u>	<u> </u>		1	
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, In	с.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

 Explanation & Comments
-
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	BASF Wyandotte AOC7						Log of Boring SP07A					
	: bgl)			_	ID or FID (ppm)				Borehole Completion			
	Oepth (feet bgl)	Blow Counts	Sample Recovery (X)	. •	Profile	Soil/Rock Description and Comments	Classification	Lithologic Log		Elevation (ft.)		
	•						CL					
	-					Gravel dark grey, clay with some sand.	GC	000		1		
	-5		75%		!		CL CL	000		4		
							CL GW					
	•						SW			1		
ļ	- 4		<u> </u>			Sand grange-brown, fine grained, well sorted with laminae. No recovery.				4		
						End of boring				Ì		
ł	• •									1		
	-6									4		
										1		
	8				,					1		
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Science	e and Engineering, Inc.		
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer	
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"	
Date Started: 8/28/96 Date Compl	Total Depth Drilled (ft.): 4		
Apparent Depth to Saturation While Drill	Ground Elevation (ft.):		

Completion Information

1			
	Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips	

NO WELL INSTALLED

	⊏xp	ıanat	ion 🐼	Comme	ints
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	В	ASF	= W	yar	ndotte /	AOC7		Log	of Boring SP	07B
D.	2			P.	ID or FID (ppm)				Borehole Completion	
\exists	Depth (feet bgl)		æ	-	I	Soil/Rock Description	c			3
3	<u> </u>		<u>ئ</u> خ	Values	Profile	and Comments	catio	ဥ		tion time
	ep ta	unts	Sample Recovery	>	1101110		USCS Classification	holoç g		Elevation (ft.)
- ₀		<u> </u>	\ <u>\</u> \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \			i .	ᄄ	Log		
L	-					Clay brown, sandy with some gravel. Clay dark brown with gravel.	CL			J
	l					Sand orange with metal fillings.	SW	301070		1
-2			20%	Ì]	}	+
						No recovery.				j
					! 					1
-4			<u>*</u>			End of boring	1		ļ	\exists
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BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF			
Drilling Company: Environmental Science and	d Engineering, Inc.		
Drilling Rig: Keck (TM) Soil Punch	_	Drilling Method: Hydraulic Hammer	
Soil Sampling Device: 4' Lined Ste	el Sampler	Borehole Diameter (in.): 2"	
Date Started: 8/28/96 Date Completed	Total Depth Drilled (ft.): 4		
Apparent Depth to Saturation While Drilling	Ground Elevation (ft.):		

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASF	- 1	٠ <u>٠</u>		dotte	AOC7		Lo	g of Boring S	3P0
(jōc				PI	D or FID (ppm)				Borehole Completion	
Obpth (feet bgl)	Blow Counts		Recovery (X)	Vafues	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-2		60		0.0		Clay brown with silt and gravel. Clay black with sand and gravel. Prussian blue. DBO tan. Sand orange-brown, fine grained, well sorted with laminae.	1 1		·	
-4						No recovery. End of boring				
ф Ф									·	
10						·				
12										
14										
16										
20										

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ring, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

		٨٥١				NOC7	•	10-	of Boring S	
		A 31	- w	,	ID or FID (ppm)			rog	of Boring S Borehole	PUGA
	Depth (feet bgl)	Blow	Sample Recoverv (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Completion	Elevation (ft.)
	9		1			Clay grey-brown, sandy with gravel. Clay dark brown, sandy with organic matter.	Cr]]
						Cobblestones light grey, possibly concrete.	GW	ত্ব তত্ব		1 1
	-2		80%			Sand dark orange-brown, fine grained, well sorted with laminae.	SW			1 1
						Sand orange-brown as above with blue mottling and laminae structure.	SW			
	-4		<u> </u>			No recovery. End of boring				
						End at boring				
	- 6									
	-8 -									
	-1 0									
	1 2									
	- -14									
	- ⊣6									-
*	- -18									
	- -20									

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, I	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/3/96 Date Completed: 9/3/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

J_E	3AS	SF	· W		ndotte	AUC7		Log	of Boring SP	1005
pg)				P	ID or FID (ppm)				Borehole Completion	-
O Depth (feet bgl)	Blow	Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
٢	Γ		1			Clay grey-brown, silty with sand, gravel, and roots.	CL			
}						Gravel light grey-brown, sandy, sity with clay.	GC	000		
-2			80%	1.4		Sand dark brown to black, medium grained, well sorted with trace stag gravel.	SW			
ŀ						Stag dark grey to black with sand and gravel. SANPLE & DUPLICATE TAKEN.	GW	000		
4		ļ	-	-		No recovery.		1101701176		
-6			35%	0.0/		Sand black, fine grained, well sorted with woody material and an oily sheen.	sw			
•						No recovery.				
-8		Ì	_₩			End of boring				
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⊣ 0										
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	AOC7		Lo	g of Boring S	P09
	Š			P	(D or FID				Borehole Completion	
	Depth (feet bgi)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
ſ	0		1			Sand brown with clay, silt, and gravel.	SC			1
ŀ						Sand as above, blue.	sc			4
	2	-	40%			Brick Rubble, red.	GW	7.77		
-						No recovery.				
 	4		₩.			End of boring				
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engine	eering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Samp	ler Borehole Diameter (in.): 2"
Date Started: 9/3/96 Date Completed: 9/3/9	76 Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	5 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP09A										
						D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow	ple	overy (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	0	8 8	Sam	Rec			Sand grey-brown, fine grained with clay and roots.		Lith		- -
:							Sand grey-brown, time grained with silt, clay, and concrete debris.	SM			-
	-2		90) %			Sand brown, fine grained with silt, clay, and some concrete debris (gravel size). SAMPLE & MS/NSD TAKEN.	SM	T 2 V		-
	Γ,				0.0		Concrete Debris white.		V 0 V		-
]			J.J		Sand dark brown with silt.	35			
	-4				0.0/ 20		No recovery.	SM			-
	-				20		Sand dark brown, fine grained, well sorted with silt, trace slag gravel, and an oily stain.				-
	- 6		95	*			Sand brown laminated, fine grained with silt. Saturated.	SM			-
\$ P. P. P. P. P. P. P. P. P. P. P. P. P.	-8			_			Clay brown-grey and plastic. End of boring	СН			4
	- ⊣0 -										-
	⊣ 2									-	
	⊣ 4										-
	-1 6										-
	- 18										-
	-20										4

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engine	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampl	er Borehole Diameter (in.): 2"
Date Started: 8/28/96 Date Completed: 8/28/9	96 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	F	W	yar	ndotte	AOC7		Lo	og of Boring S	
	(jbq				Р	ID or FID (ppm)				Borehole Completion	7
	O Depth (feet bgl)	Blow Counts	Sample	Recovery (X)	Values	Profile	Soll/Rock Description and Comments	Classification	Lithologic Log		Elevation (ft.)
	-			•			Clay brown to grey-brown, silty with sand and wood.	CL			
	-2		9:	5 %			Clay brown, silty with sand and a clast of coal.	CL			
ļ								CL			1
	4		H	┸┤			Clay dark grange-brown with sand, silt, and cobblestones.	CL :			1
							End of boring				J
•	-6						* second duplicate spoon taken for sample volume— 8" from the first hole contains 1/8" Prussian Blue & 3' depth.				
	-8										
	-10										
	- - 1 2										
	-14										1
	- ⊣6										-
	- -18										
	-20										

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF								
Drilling Company: Environmental Science and Engineering, Inc.								
Drilling Rig: Keck (TM) Soil Punch Drilling Method: Hand Auger								
Soil Sampling Device: 4"	Steel Bucket Auger	Borehole Diameter (in.): 4"						
Date Started: 9/3/96 Date Completed: 9/3/96 Total Depth Drilled (ft.): 4								
Apparent Depth to Saturat	ion While Drilling (ft. bgl):	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

В	BASF Wyandotte AOC7 Log of Boring SP10								
(iga				P	ID or FID (ppm)			Borehole Completion	
O Depth (feet bgl)	Blow	Samole	Recovery (X)	Values	Profile	Soil/Rock Description and Comments Soil/Rock Description Comments	Lithologic		Elevation (ft.)
						Clay grey-brown with gravel and sand.		7.5 - 7.7 - 7.7 - 7.7 - 7.7 - 7.7	- -
-2						Sand dark brown, fine grained, well sorted with silt, clay, and gravel.			ı
4						Gravel dark brown to black with sand and silt. SAMPLE & GP DUPLICATE TAKEN.	000	- 0 - 0 - 1	,
}						Sand brown, fine grained, well sorted with silt. Moist. End of boring	,		-
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- H6									-
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engli	ineering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sai	mpler Borehole Dlameter (in.): 2"
Date Started: 9/3/96 Date Completed: 9/3	/96 Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bg	gl): Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

					dotte /	T	—		og of Boring	7
O Depth (feet bgl)	Blow Counts	Sample	Recovery (X)	Values	D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
-2		70				Asphalt Sand grey, coarse with clay. Woody Naterial brown with Prussian Blue mixed in. Clay grey with fine grained sand and some gravet.	SC PT CL SM SM		·	
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10										
12						·			_	
4 .									1	
6										
18										

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scient	ce and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/3/96 Date Com	oleted: 9/3/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Dr	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-4 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	ndotte /	40C7		L	og of Boring S	
	Depth (feet bgl)	Blow	Sample Recovery (%)	_	ID or FID (ppm)	Soll/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	-0 2		50%			Asphalt Sand grey, silt, clay with gravel and slag. Prussian blue. Noody Material brown with disemated Prussian Blue. Sand light brown, fine grained, well sorted, and silty. No recovery.	SM PT SM			4
	4		<u>.</u>			End of boring				
***************************************	- 8 -									
	H0 -									-
	H2 - H4									1
	H6									4
	-18 -									
	-20	i	1	1	1				1	+

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

	Client: BASF	
	Drilling Company: Environmental Science and Engineering, Inc.	
$\ [$	Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
	Soll Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
	Date Started: 9/3/96 Date Completed: 9/3/96	Total Depth Drilled (ft.): 4
	Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Court Types Dontonito obine
i i Grout Interval (ft. Dol): U-4	Grout Type: Bentonite chips
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NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP13									
	t bgi)			-	ID or FID (ppm)	Soil/Rock Description			Borehole Completion	£.
	Depth (feet bgl)	Blow Counts	Sample	Values	Profile	and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
Ю			1			Asphalt		-0-0-		
-						Clay brown-grey with sand, gravel and some debris.	CL			4
-						Sand dark brown to black, coarse with coal, slag, and some red brick debris.	SW	•		
-2			70%			Sand orange mottling, fine to medium grained, medium sorted with silt and trace red brick debris.	SM			
t						Sand orange as above.				4
4			\downarrow			No recovery.				4
						End of boring				Í
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BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF							
Drilling Company: Environmental Science	e and Engineering, Inc.						
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer						
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Dlameter (in.): 2"					
Date Started: 9/3/96 Date Comple	Date Started: 9/3/96 Date Completed: 9/3/96						
Apparent Depth to Saturation While Drilli	Ground Elevation (ft.):						

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP14									
) g			PI	ID or FID (ppm)				Borehole Completion	·
	Oepth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	v		1			Asphatt	SW	0 0		
ŀ						Sand brown, fine grained, well sorted with limestone cobbles.	3₩	•		4
-	_					Sand as above with trace Prussian Blue.	SM			
Ì	-2		50%	0.0		Sand black and grey-tan mottled, fine grained, well sorted with silt and laminae.				1
-						No recovery.				
ł	-4				i	End of boring				1
-										
1		į								
	6									1
-					:					4
	0								j	
7	8									1
\mid										+
	10									_
	.•									
ŀ										1
	12									4
									_	-
t	•								-	1
-	14									4
										İ
İ										1
-	16									4
]
ſ						•			į]
1	18									4
]
Ì										-
ŀ	20									1

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4' Lined Steel Sampler

Date Started: 9/3/96 Date Completed: 9/3/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4.1

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP15									
4.3	Depth (feet bgl)	Blow	ample	ecovery (X)	_	(D or FID (ppm)	Soil/Rock Description and Comments Cossilication Cossilication Cossilication Comments Cossilication	Log	Borehole Completion	Elevation (ft.)
	Ŷ	B 0	8	H			Asphalt			4
							Clay brown-grey with sand and gravel.	9-9		+
	-2		50))% 			Sand brown and orange mottled, fine grained, well sorted with some clay, silt, trace slag, and cobbles. No prussian blue.			4
	-						No recovery. Tip of barrel is wet.			-
	- 4		Н	\vdash		:	Concrete Debris grey.	<u>a.\</u>		4
	_						Sand brown, fine grained, well sorted, and silty. Compact.]
•	-6		50				Sand brown as above. Wet.			
	-) % 			No recovery.			
	- 8						End of boring	J		
	⊣ 0									
	-1 2									
	•							•	-	4
	-14									1
	1 6				-					
	⊣8									1
	-20									1

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Scie	ence and Engineering, Inc	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/3/96 Date Co	mpleted: 9/3/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While I	Ground Elevation (ft.):	

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	BASF Wyandotte AOC7 Log of Boring SP16							
	<u></u>			P	ID or FID (ppm)			Borehole Completion	
-0	Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments Comments Comments	Lithologic Log	·	Elevation (ft.)
						Asphalt Sand grey-brown, fine grained, clay with some gravel and slag. SC			
Ţ									1
-2			60%			Stag black with sand and coal. Sand orange-brown, fine grained, well sorted with silt. Mottled	000		4
-						texture.			4
4			.			No recovery.			
						End of boring			
t				·					1
6									1
+									1
									4
									1
HC)								1
ŀ									
H2									4
								-]
						·			
H4	'								1
ŀ									1
He									+
-									
H8									
									1
T									1
-20) 							1	4

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineeri	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/5/96 Date Completed: 9/5/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 3.	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC7 Log of Boring SP17									SP17
Šě			PI	D or FID (ppm)				Borehole Completion	
O Depth (feet bgl)	Blow Counts	Sample Recovery (%)	, -,	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-0		1			Clay brown, silty with sand and roots.	CL			
-2		95%			Sand brown, fine grained, well sorted, and silty.	SM			-
-4		*	/0.0		Sand orange-brown, fine grained, well sorted with silt. Limonite staining. Saturated.	SM			_
- б		100%	/10.0		Sand grey-brown as above.	SM			-
æ					Clay grey-brown. Stiff.	CL			
-10 -12 -14 -16 -18					End of boring				

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Method: Hydraulic Hammer

Soil Sampling Device: 4' Lined Steel Sampler

Date Started: 9/5/96 Date Completed: 9/5/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4.4

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP18									SP18
	PID or FID (ppm)								Borehole Completion	7
	O Depth (feet bgl)	Blow Counts	Sample Recovery (X)	, ,	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
į	-0		1			Clay brown, silty with sand and roots.	CL			1
	-					Sand dark brown, fine grained with some clay and slag.	SW			
	-2 -		90%	/0.0		Sand orange-brown, fine grained, well sorted with silt.	SM			
ļ	-4		<u>+</u>			No recovery.	0.4			4
ſ	.:					Sand as above.	SM CL			
ŀ	-			/0.0		Loam dark brown. Sand grey-brown, fine grained, well sorted with dark grey	SW			1
	-6		100%			mottling. Possibly saturated. (Comapct).				1
	•					Clay grey-brown. Stiff.	CL			
	8					End of boring				1
										1
l										
ŀ	10									1
	•									4
										Ì
Ì	٦2									1
-					i					1
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1										1
}	-20									1

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF

Drilling Company: Environmental Science and Engineering, Inc.

Drilling Rig: Keck (TM) Soil Punch

Drilling Rig: Keck (TM) Soil Punch

Soil Sampling Device: 4' Lined Steel Sampler

Date Started: 9/5/96

Date Completed: 9/5/96

Apparent Depth to Saturation While Drilling (ft. bgl): 4.2

Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	Depth (feet bgl)				P	ID or FID				BASF Wyandotte AOC7 Log of Boring S							
	epth (feet					(ppm)				Borehole Completion	~						
		Blow	Sample	Recovery (X)	, •	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)						
- 1							Clay brown with fine grained sand, some gravel, silt, and roots.	CL									
f]				/0.0		Gravel dark grey with sand and some clay.	GW			1						
			90) % 	/0.0		Sand orange-brown, fine grained, well sorted with silt.	SM									
۲	4				/0.0		Loan dark brown.	CL	<i>בוב ונ</i>		1						
-6	3		100	0%	/0.0		Sand orange-brown and orange mottled, fine grained, well sorted, and sity. Saturated.	SM									
					/0.0		Sand light grey, fine grained, well sorted with trace gravel.	SW									
				,			Clay grey, laminated with trace gravel. Stiff. (dropstone?).	CL									
- - - - - -	2 4																

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/5/96 Date Completed: 9/5/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout 1	Interval (ft. bgl): 0-4	Grout	Type:	Bentonite chips	

NO WELL INSTALLED

В	BASF Wyandotte AOC7 Log of Boring SP20								
pg()			P	ID or FID (ppm)				Borehole Completion	7
Obpth (feet bgl)	Blow Counts	Sample Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
Γ		1			Sand brown, fine grained, silt with some clay and roots.	SM			1
-					Clay brown with sand and construction debris (gravel size brick).	CL	- 0 - 0 - 9 - 9 - 9		-
-2		70%			Sand orange-brown and dark grey moltiled, fine grained, well sorted with some construction debris and isolated nodual of Prussian Blue.	SW			-
-4		*			End of boring				
-6									
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8			·						1
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H4			·						1
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H6									
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-20									1

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineer	ing, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	Borehole Diameter (in.): 2"
Date Started: 9/5/96 Date Completed: 9/5/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

Explanation & Commen	ts
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PID or FID (ppm) Soll/Rock Description and Comments Soll/Rock Description and Comments Soll/Rock Description and Comments Soll/Rock Description and Comments Soll/Rock Description and Dock Description and Comments Soll/Rock Description and Dock Description and Comments Soll/Rock Description and D	BASF Wyandotte AOC7 Log of Boring SP2											
Sand brown, fine grained with gravet, allt, some clay and roots. Sand orange-brown and black motified, fine grained with some slag gravet. Presiden Blue. No recovery. End of boring		Depth (feet bgl)	low	ample ecoverv (%)	-	(ppm)	Soil/Rock Description and Comments	SCS lessification	thologic og		Elevation (ft.)	
9 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			80	SE				l i			-	
No recovery. End of boring 10 12 14 16 18		-2		60%			Sand orange-brown and black mottled, fine grained with some slag gravel.	SP		·	-	
No recovery. End of boring 10 12 14 18		_					Prussian Blue.					
End of boring Bell of boring Bell of boring Bell of boring Bell of boring Bell of boring Bell of boring		-										
-10	-	-4		<u> *</u>	}		End of boring		<u> </u>		-	
-10	-										-	
-10		6										
		-0									-	
							·				4	
		8									-	
	İ											
-14 -16 18	ŀ	10									-	
-14 -16 18									•		4	
-14 -16 18		10			ļ 							
-16		12								_	-	
-16	ŀ										-	
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BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineers	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/5/96 Date Completed: 9/5/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

Ε	X	P	lá	31	٦	а	t	i	0	n	1	S	1	С	C	Ì	M	Π	N	е	П	H	t	S

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	- W	yar	ndotte /	AOC7		Lo	g of Boring S	SP22
	(lōc			P	ID or FID (ppm)				Borehole Completion	
	Oepth (feet bgl)	Blow	Sample Recovery (%)	97	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
	7		1			Sand brown-grey, fine grained with silt, gravel, some clay and roots.	SM	တို့ ဝ		
	-					Siag Gravel black with sand and some clay or sit.	GW	ە ۋە مۇم		1
	-2		85%			Sand brown, fine grained, well sorted, and silty.	SM			-
	-4		*	-		No recovery.		1207/A01/A0		4
	-6		70%	/1.0		Sand orange-brown, laminated, fine grained, well sorted, and silty. Saturated.	SM			-
	-			/1.0		Sand brown-grey as above.	SM			-
	В		_₩_			Clay brown-grey and stiff.	CL			4
	_					No recovery. End of boring				
	- 10									-
	1 2				-					
									-	
	ا بر									1
	-14									
ŀ	•									1
ŀ	-16									
	-18									
-	-20									4

	В	ASF	- h	lу	⁄an	dotte A	NOC7		Lo	g of Boring S	P23
9	Depth (feet bgl)	Blow Counts	Sample Recovery (*)		Values	D or FID (ppm)	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
			1				Sand dark brown, fine grained with silt, some clay and roots.	SM	<u>ت</u>		1
2			95%	1	0/0		Linestone Cobbles brown, fine grained sand, silt, and trace clay. Sand brown, fine grained, well sorted, silty with a trace of stag gravel.	GP SM			
6			1003	۱	0/0		Sand orange-brown as above, trace Imonite nodual. Saturated 2 5°.	SM			-
8				c)/<1		Sand brown-grey and dark grey laminated, fine grained, well sorted, and silty. Saturated.	SM			1
- 12 - 14 - 16							End of boring				
-20	o										1

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (In.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4	Ground Elevation (ft.):

Completion Information

ı		
	Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= W	yar	dotte /	AOC7		Lo	g of Boring S	P24
The second secon	(jōc			P	ID or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	φ		1			Sand brown, fine grained with silt, gravel, trace clay, and roots.	SM			1
	-2		90%	0/0		Sand orange-brown, dark brown & tan mottled, fine grained, well sorted with some silt and trace coal fragments.	SM			-
						Loan dark brown with roots.	(<u>p</u>	123		
ı				0/0		Sand orange-brown to tan, fine grained, well sorted with some	SM			
	-4		*			Sailt. No recovery. Sand orange-brown, fine grained, well sorted, and silty. Becoming grey-brown & 6'. Saturated.	SM			-
	-6 -		50%			No recovery.				
	L ₈		<u> </u>		ī	End of boring				-
	- -10 -									4
	-1 2								_	
	-14									
	-16			-						
	-18									
	-20									

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	= 1	M)	yan	dotte	AOC7		Lo	g of Boring S	P25
1	ĝ				PI	(D or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow	Sample	Recovery (X)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	9		1				Sand dark brown, fine grained with silt, some clay, and roots.	SM			
	-	l	П	I			Sand light brown, fine grained with abundant limestone cobbles.	SP	• • •		
	-2		60	×			Sand dark brown, fine grained, silt debris gravel, and trace clay.	SM			
		1	Н	-			Sand brown, fine grained, well sorted, and silty.	SM			
						i	No recovery.				
ē	-4 - -		85		0/0		Sand orange-brown, fine grained, well sorted, and silty. Saturated e 5'.	SM			•
					0/0		Sand grey as above.	SM			
	-8		₩	\dashv			No recovery. End of boring				
	- - 1 0 -									·	- -
	⊣ 2 -									-	•
	-14 -										
	-1 6 -										-
	- 18										-
	-20									İ	

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environmental Science	e and Engineering, In	<i>c</i> .
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Comp	leted: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Dri	lling (ft. bgl): 5	Ground Elevation (ft.):

Completion Information

	
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

BASF Wyandotte AOC7 Log of Boring SP26									SP28
Depth (feet bgl)	Blow	Sample Recovery (%)		(D or FID (ppm)	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	Blow	95%	0/0 0/0 0/0		Sand brown, fine grained, well sorted with sitt, some clay, and roots. Gravel tan with fine grained sand and clay. Sand dark brown, fine grained, clay, gravel, trace coal fragments and limestone cobbles. Sand brown, fine grained, well sorted, and sitty. Loan dark brown with roots. No recovery. Sand brown and dark brown mottled, fine grained, well sorted, and sitly. Sand orange and green mottled, fine grained, and well sorted. Sand blue, green, and orange laminated, fine grained, and well sorted. Saturated. Sand orange, limonite staining, line grained, well sorted. Sand grey, fine grained, well sorted, and sitly. Saturated. Clay grey and stiff. End of boring * The Prussian Blue appears to have migrated in solution to be deposited beneath the water table.	SSSI S G G S S S S S S S S S S S S S S S			
-20									1

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and Engineering,	Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 4.8	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte /	AOC7		Lo	g of Boring S	SP27
45	Depth (feet bgl)	Blow	Sample Recovery (%)	••	(D or FID (ppm) Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	Borehole Completion	Elevation (ft.)
	10		1			Sand brown, fine grained, silt, gravel, some clay, and roots.	SM			1
	-2		80%	0/0		Sand orange-brown and dark brown mottled, fine grained, well sorted, silt, trace clay, gravel, and trace root material throughout (possibly mixed topsoil and sand).	SM			-
						Na recovery.				
	4		*			Sand as above. Saturated @ 4.8°.	SM			-
	<u> </u>			0/1		Loam dark brown with roots. Loam plugged core barrel.	CL/	72 77		4
	-6 -		15%			No recovery.				
	-8				<u> </u>					
	-10		50%			Clay grey and stiff. NOTE: upper tube filled with saturated brown and grey fine grained, well sorted sands (sluff). No evidence of prussian blue.	CL			1
	-					No recovery.				-
	H2					End of boring	L			1
	-									
	-14 -									
	-16 -									
	-18 } -									
	-20									-

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan

Project Number: 4695-010

Client: BASF	
Drilling Company: Environmental Science and	eering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel	oler Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Completed:	76 Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (fi	5.0 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 Log of Boring SP28										
	(jBq					ID or FID (ppm)				Borehole Completion	3
	O Depth (feet bgl)	Blow	Sample	Recovery (%)	Values	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
			ľ				Sand brown, fine grained, silt, clay, some gravel, and roots.	SM			
	-2		95	5%	0/0		Sand orange-brown, tan, and dark brown mottled, fine grained with silt, gravel, and clay clasts.	SM		·	
	-4		7				Sand as above. Moist.	SM			
-	-6		75	5%	0/2		Sand dark grey and green-brown laminated, fine grained, well sorted with silt. Saturated.	SM			7
							Clay grey and stiff. No recovery.	CL			1
	8		H	_			End of boring				-
	 10									·	-
	⊣ 2										-
	- -14										
	- -16										
***	- - 18				3					·	
	-20										

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 5.6	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	= W	— yar	dotte /	AOC7		Lo	g of Boring S	
	et bgl)		(%)		(D or FID	Soil/Rock Description	S.		Borehole Completion	(tr.)
	Oepth (feet bgl)	Blow			Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
						Sand brown, fine grained, silt, some clay with roots.	SM]
		Ì	11	ĺ		Linestone Cobbies red brick, gravel, and sand.	GP	000		- 1
-	-2 - -4		95%	0/0		Clay dark brown with coarse grained sand, gravel, and limestone cobbles. Some coal fragements.	CL			
	-			0/1		Sand green-brown and black, mottled, fine grained, well sorted, and sity.	SM			1
	- 6		90%	0/1		Sand black, fine grained, well sorted, and silty. Saturated.	SM]
						Sand grey, fine grained, well sorted, silty. Saturated.	SM			1
4	8			[Clay grey, stiff.	CL			1
	- -10					End of boring.				-
	-1 2								_	
	⊣ 4									
	-1 6									1
	-18 } -									-
	-20		l						1	4

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF		
Drilling Company: Environemntal Sci	ence and Engineering, Inc.	
Drilling Rig: Keck (TM) Soil Punch		Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined	Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Co	mpleted: 9/6/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While	Drilling (ft. bgl): 5.0	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12 Grout Type: Bentonite chips

NO WELL INSTALLED

	BASF Wyandotte AOC7 PID or FID Borehole Completion									
(jbq				PI	por FID				Borehole Completion	3
feet			8	Si		Soil/Rock Description and	‡ Eo F			=
Depth (feet bgl)	Blow Counts	Sample	Recovery	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-0		7	٦		 	Loam brown.	SM	<u> </u>		
-2		90	×			Linestone Cobbles fine sand, silt, roots, coal fragments, trace clay.	GP			
			,	0/0		Clay brown to dark brown, sand, silt, some gravel, trace of coal fragment, and DBO fragment.	CL			
-4		1	`			Clay brown, stiff, probably a clast.	CL SM			
-				1		Sand brown and dark brown, mottled, fine grained, well sorted, with silt and clay clasts.	J JM			
-6		90	*			Sand orange-brown, fine grained, well sorted. Saturated.	SW			
- 8				0/1		Sand grey, fine grained, well sorted, silty. Saturated. Trace Prussian Blue & 8' located around a possible organic nucleus.	SM			
-		50	×			Clay grey, stiff with a trace of red graveL	CL			
•						No recovery.				
1 2		ľ	٦	{		End of boring.	<u>'</u>		_	
-14										
16										
18										

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and Engineering	g, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (ln.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4.	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	<u>-</u>	W	yar	dotte /	AOC7		Lc	og of Boring S	SP31
*	(Jigq				P	ID or FID (ppm)				Borehole Completion	
	(feet bgl)			(X)			Soil/Rock Description and	ation	,		on (ft.
	Depth	Blow Counts	Sample	Recovery	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
	0						Sand brown, fine grained, silt, some clay and roots.	SM			
	-2			2%			Sand light brown, fine grained, gravel, and some clay.	sc			
	-				0/0		Clay dark brown, fine grained sand, some concrete debris, dark brown soil clasts, and brick debris.	CL			
	- 4		-'				Loam dark brown.	SM			1
	-6		75	- X			Sand grey-brown, fine grained, well sorted, silty with orange mottling. Trace of roots. Saturated 8 4.7'.	SM			4
	-				0/0	,		SM			1
						1	Clay grey, stiff.	CL			1
	-8 -						No recovery. End of boring.	_			
	- 10										4
	-1 2									_	
	-14						•				-
	-16										
)	-18					!					
}	-20	į									

BASF Wyandotte AOC7

1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and Engineer	ering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sample	er Borehole Diameter (in.): 2"
Date Started: 9/6/96 Date Completed: 9/6/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl):	5 Ground Elevation (ft.):

Completion Information

	<u> </u>
Grout Interval (ft. bgl): 0-8	Grout Type: Bentonite chips

NO WELL INSTALLED

В	ASI	=	W	yan	dotte	AOC7		Lc	g of Boring S	3P32
(j 6				PI	D or FID (ppm)				Borehole Completion	_
feet t			X	\$6		Soll/Rock Description and	to to			n (ft.
Depth (feet bgi)	Blow Counts	ample	ecovery	Values	Profile	Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-0	(B) (C)	S	R			Sand grey-brown, fine grained, silt, some clay and gravel. Trace	SM	7.5		
-						Sand light brown, fine grained, silt, and limestone cobbles.	SM			
- 2		75	7			Clay dark brown, sand, gravel, coal fragments, and concrete	CL	000		
-				0/0		debris. Sand dark brown, fine grained, well sorted, silty.	SM			
-4		H				No recovery.		120,120,120		
- 6		90)×	0/0		Sand bright orangee, fine grained, well sorted, silty. Saturated & 5'. Heavy Limonite staining.	SM			
В						Clay grey, stiff.	CL			
•						End of boring.				
10										
12										
							;			
14										
16										
					,					
18					;					
20										

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and Engineeri	ng, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Completed: 9/13/96	Total Depth Drilled (ft.): 4
Apparent Depth to Saturation While Drilling (ft. bgl):	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-4	Grout Type: Bentonite chips

NO WELL INSTALLED

E	BASI	= v	lya	ndotte	AOC7		Lo	g of Boring S	P33
et bgi)			8	PID or FID (ppm)	Soil/Rock Description	ç		Borehole Completion	(ft.)
O Depth (feet bgl)	Blow			Profile	and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
-					Sand light grey, coarse grained with some clay, trace gravel.	sc			
-2		75	×		Sand dark gray, fine grained with some clay. Sand orange-brown, fine grained, poorly sorted, with limonite staining. SANPLE TAKEN.	SC SP			-
4		1	_		No recovery End of boring.				-
6									-
-8									1
-10									-
H2 -									
-14									-
-16									4
H8					·				1
-20									-

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and	neering, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soli Sampling Device: 4' Lined Stee	pler Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Completed:	796 Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (f): 5 Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-8 Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASI	= W	yar	ndotte /	AOC7		Lo	g of Boring S	P34
	pgi)			P	ID or FID (ppm)				Borehole Completion	•
	Oepth (feet bg!)	Blow Counts	Sample Recovery (X)	97	Profile	Soil/Rock Description and Comments	USCS Classification	Lithologic Log	·	Elevation (ft.)
	70		1			Clay brown and fine grained sand with some gravet.	CL	-0-0-		1
	-2 -		90%			Sand orange-brown, fine grained, well sorted, silty. Hoist 83.5"	SM			
	-4	}	<u> </u>			No recovery.				4
	-					Sand orange-brown, limonite stained, line grained, well sorted, silty. Moist. SAMPLE TAKEN.	SM			
						Sand green-brown as above. Saturated.	SM	****		
	-6 -		100%	1		Sand brown-grey and grey, fine grained, well sorted with silt. Saturated.	SM			-
	-8		_\			Clay grey-brown, stiff.	CL		1	4
	-10 -					End of boring.			· .	- - -
	-14								_	1
	- -16									-
	-18									-
ł	-20									- 1

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and Engineering, 1	inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soil Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Completed: 9/13/96	Total Depth Drilled (ft.): 8
Apparent Depth to Saturation While Drilling (ft. bgl): 4.5	Ground Elevation (ft.):

Completion Information

i						
	Grout Interval (ft. bgl): 0-8	Grout	Type:	Bentonite o	hips	

NO WELL INSTALLED

	В	ASF	= W	yar	ndotte /	AOC7	-	Lo	g of Boring S	P35
	<u></u>			Р	ID or FID (ppm)				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)		Profile	Soil/Rock Description and Comments	USCS Classification			Elevation (ft.)
Γ			1			Clay dark brown with some gravel.	ا م	000		
-2			95%			Siag Gravel black, some coarse sand, and clay. SAMPLE TAKEN.	GC			-
-4			+			Sand brown , fine grained, well sorted, silty. Hoist @ 4'	SM			
	i					Sand orange-brown, fine grained, well sorted, silty. Trace of clay. Saturated @ 4.5'.	SM			
-6			60%			Sand brown-grey as above. Saturated.	SM			
						No recovery.				
			<u> </u>			End of boring.				4
-										4
НС)									
-12	,									
"	•								_	
+		i			- -					4
44	1									-
-						,				4
H6	3									1
										1
18	•									
-20	0									

BASF Wyandotte AOC7 1609 Biddle, Wyandotte, Michigan Project Number: 4695-010

Client: BASF	
Drilling Company: Environemntal Science and Engineering	ı, Inc.
Drilling Rig: Keck (TM) Soil Punch	Drilling Method: Hydraulic Hammer
Soll Sampling Device: 4' Lined Steel Sampler	Borehole Diameter (in.): 2"
Date Started: 9/13/96 Date Completed: 9/13/96	Total Depth Drilled (ft.): 12
Apparent Depth to Saturation While Drilling (ft. bgl): 6	Ground Elevation (ft.):

Completion Information

Grout Interval (ft. bgl): 0-12	Grout Type: Bentonite chips

NO WELL INSTALLED

	В	ASF	- W	yar	dotte A	AOC7		Lo	g of Boring S	P36
	(16,			P	(D or FID				Borehole Completion	
	Depth (feet bgl)	Blow Counts	Sample Recovery (%)	, , ,	Profile	Soll/Rock Description and Comments	USCS Classification	Lithologic Log		Elevation (ft.)
İ	-0		1			Clay brown with gravel and cobbles.	CL	-0-0-		1
	- -2		60%			Sand grey, fine grained, and imestone cobbles.	SP			j
	-2		1			Sand brown, fine grained, silty, with clay.	SS (SS)			1
	-					Loan dark brown.	(31.17)			4
						No recovery.				- 1
	-4 -6		75%			Sand orange-brown, as above. Saturated @ 6°	SM			
						No recovery.				
	le		*			Sand orange-brown as above.	SM			.
	1 0		100%			Clay grey, stiff with traces of red gravel (dropstones).	CL			
	-12		<u> </u>							4
ı	-					End of boring.			_	- 1
	•			'						4
	- 14									-
										4
	⊣ 6									1
I	-									j
	- 18									+
44	•									I
	•									1
	-20									1

APPENDIX C

Aquifer Testing Data and Analyses

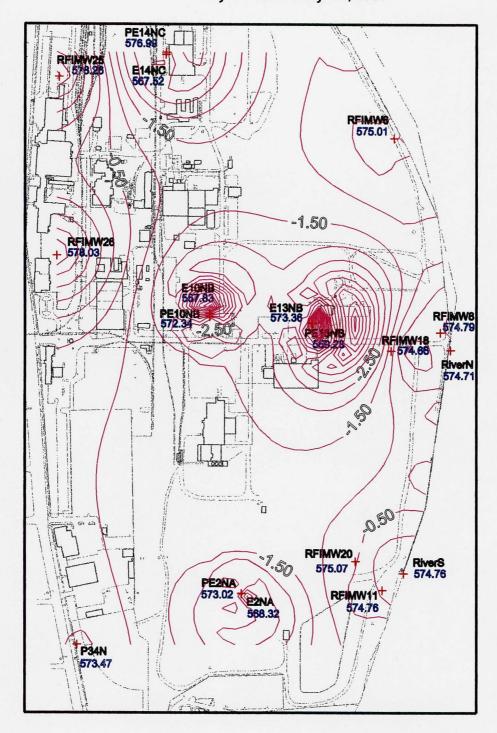
Figure C-1: RFIMW#9 Slug In Test = 0.01786 ft/min0.7078 ft Displacement (ft) Bouwer-Rice Unconfined 0.1 COMPANDE COM 0.01 3.2 12.8 16. 8.4 9.6 Time (min)

Figure C-2: RFIMW#9 Slug Out Test 0.02339 ft/min Ø.8874 ft Displacement (ft) 1. Bouwer-Rice Unconfined stest2.aqt Step size: Percent: 1.0 / Commonwealth Commonwealth 0.1 0 0.01 3.2 16. 9.6 12.8 6.4 Time (min)

Figure C-3: RFIMW#19 Slug In Test = 0.0013 ft/min= 0.6201 ft Displacement (ft) 0.1 Bouwer-Rice Unconfined stest3.aqt 0.01 0.001 ٥. в. 12. 30. 18. 24. Time (min)

Figure C-4: RFIMW#19 Slug Out Test = 0.0005744 ft/min= Ø.6616 ft Displacement (ft) Bouwer-Rice 0.1 16.4 32.8 82. 65.6 ٥. 49.2 Time (min)

Figure C-5: Difference in Potentiometric Surfaces Between July 14 and July 19, 1997





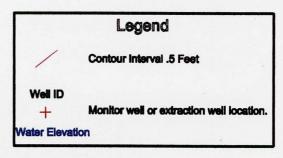
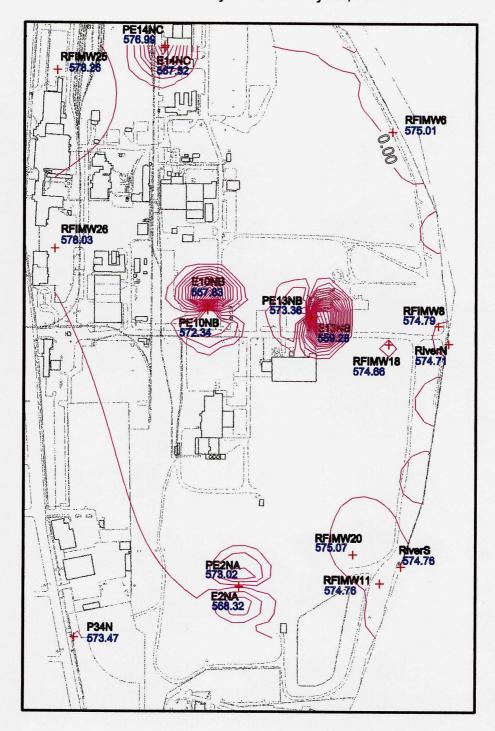


Figure C-6: Difference in Potentiometric Surfaces Between July 19 and July 21, 1997





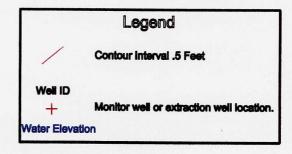
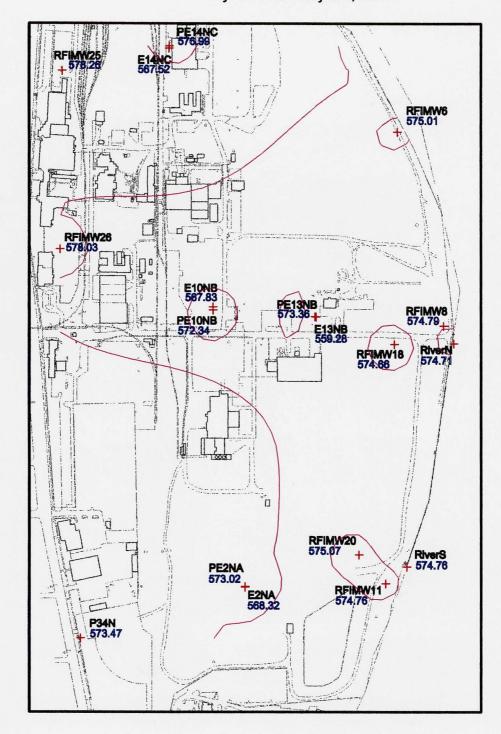


Figure C-7: Difference in Potentiometric Surfaces Between July 21 and July 22, 1997





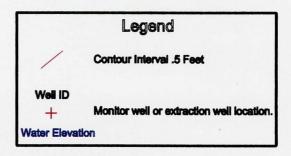
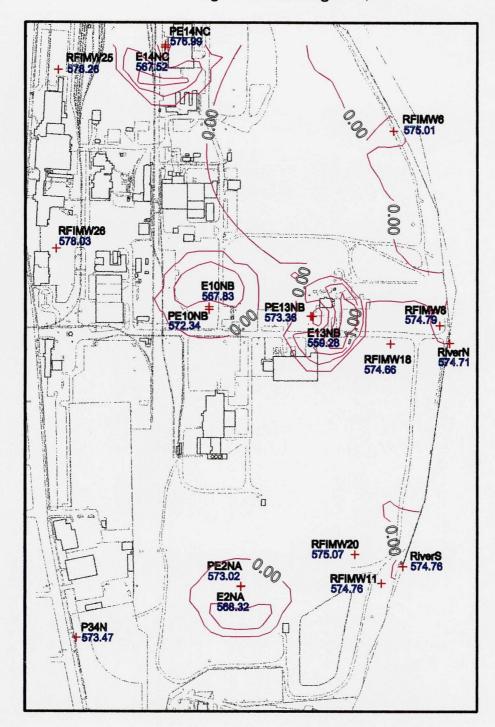


Figure C-8: Difference in Potentiometric Surfaces Between August 6 and August 8, 1997



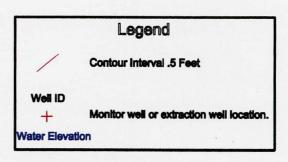
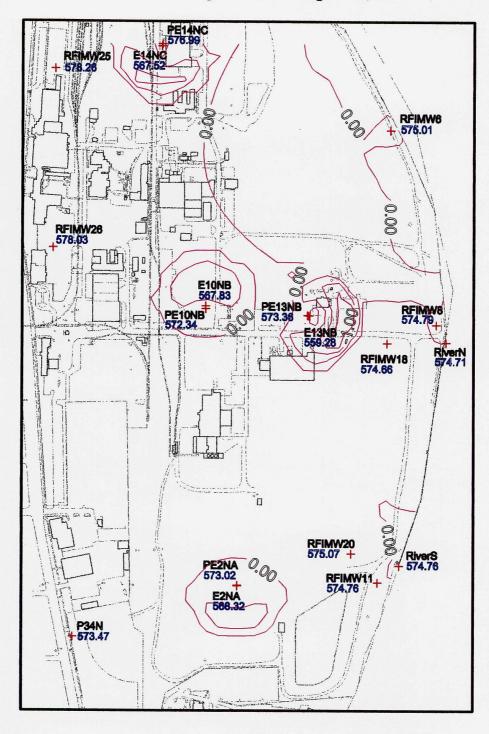




Figure C-9: Difference in Potentiometric Surfaces Between August 8 and August 10, 1997



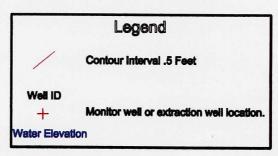
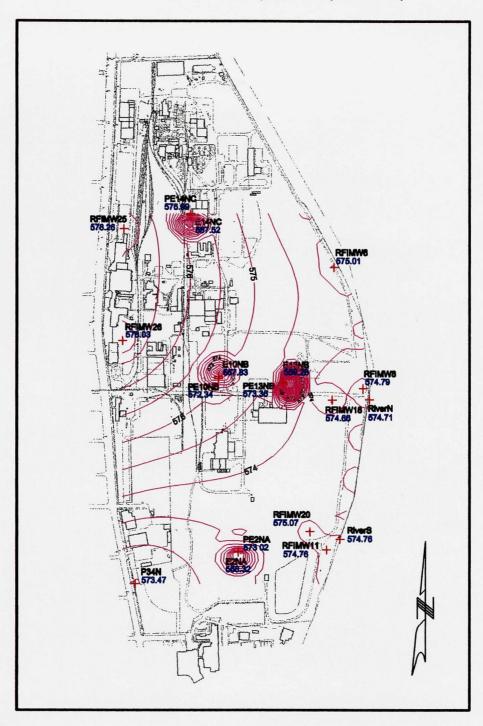
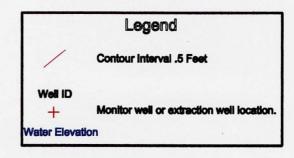




Figure C-10: Potentiometric Surfaces for August 10, 1997 (Recovery System Operational)





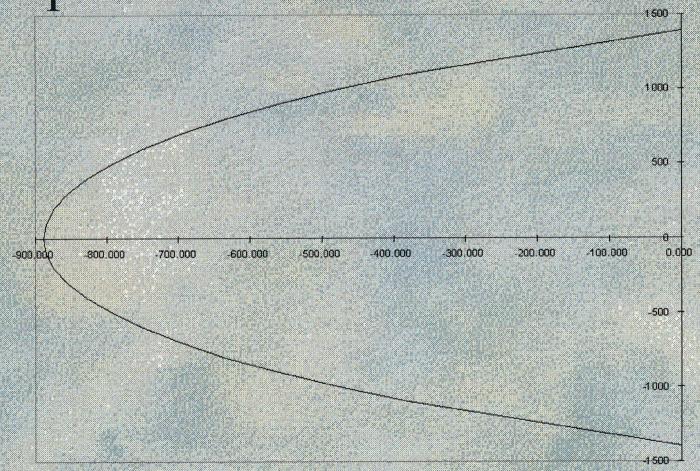
Project Name: I	BASF/Wvand	otte		Well ID:	E14NC
Project Number:				Depth to Static Water	2.47
Step	Flow Rate	Depth to Water	Drawdown	Specific Drawdown	
	Q		S	s/Q	
	(gpm)	(ft)	(ft)	(ft/gpm)	
0	0.228	7.937	5.47		
1	0.329	12.375	9.91	30.10	
2	0.514	18.909	16.44	31.96	
Aquifer Loss Co	efficient, B=	25,75095513			
Well Loss Coeff		19.47887237			
BQ= aquifer loss	ses	A. I.	PO - 0040		
CQ^2 = well loss	ses	this equation: s =	BQ + CQ^2		
CQ^2 = well loss	ses	this equation: s =	BQ + CQ^2	% Drawdown due to Laminar Flow	
CQ^2 = well loss Predict Total Dra	ses awdown with				
Predict Total Dra	awdown with Aquifer	Well	Total	% Drawdown due to Laminar Flow	
Predict Total Dra	Aquifer Losses (ft) 2.58	Well Losses	Total Drawdown	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93%	
Predict Total Dra Flow Rate Q (gpm) 0.1 0.2	Aquifer Losses (ft) 2.58 5.15	Well Losses (ft) 0.19 0.78	Total Drawdown (ft) 2.77 5.93	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93% 87%	
Flow Rate Q (gpm) 0.1 0.2 0.25	Aquifer Losses (ft) 2.58 5.15 6.44	Well Losses (ft) 0.19 0.78 1.22	Total Drawdown (ft) 2.77 5.93 7.66	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93% 87% 84%	
Predict Total Dra Flow Rate Q (gpm) 0.1 0.2	Aquifer Losses (ft) 2.58 5.15 6.44 12.88	Well Losses (ft) 0.19 0.78 1.22 4.87	Total Drawdown (ft) 2.77 5.93 7.66 17.75	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93% 87% 84% 73%	
Flow Rate Q (gpm) 0.1 0.2 0.25	Aquifer Losses (ft) 2.58 5.15 6.44 12.88 19.31	Well Losses (ft) 0.19 0.78 1.22 4.87 10.96	Total Drawdown (ft) 2.77 5.93 7.66 17.75 30.27	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93% 87% 84% 73% 64%	
Flow Rate Q (gpm) 0.1 0.2 0.25 0.75	Aquifer Losses (ft) 2.58 5.15 6.44 12.88 19.31 25.75	Well Losses (ft) 0.19 0.78 1.22 4.87 10.96 19.48	Total Drawdown (ft) 2.77 5.93 7.66 17.75 30.27 45.23	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93% 87% 84% 73% 64% 57%	
Flow Rate Q (gpm) 0.1 0.2 0.25 0.75	Aquifer Losses (ft) 2.58 5.15 6.44 12.88 19.31	Well Losses (ft) 0.19 0.78 1.22 4.87 10.96	Total Drawdown (ft) 2.77 5.93 7.66 17.75 30.27	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2) 93% 87% 84% 73% 64%	

.

QST Envir	onmental	Client: BASF	
Project No:	4695 - 010	Location: Wyandotte	
		E14	
	0.1 (H) umopmodo 0.01 (H) umopmodo 0.01 (H) umopmodo 0.001 (H) umopmod	100, 1000, 10000. Time (min)	DATA SET: N14.DAT 10/10/97 AQUIFER TYPE: Confined SOLUTION METHOD: Papadopulos - Cooper TEST WELL: E14 ESTIMATED PARAMETERS: Q = 0.09369 ft.2/min. S = 0.002375 s = 0.0005717 TEST DATA: Q = 0.09 ft3/min. r = 15 ft. rc = 0.33 ft. rw = 0.5 ft.

.



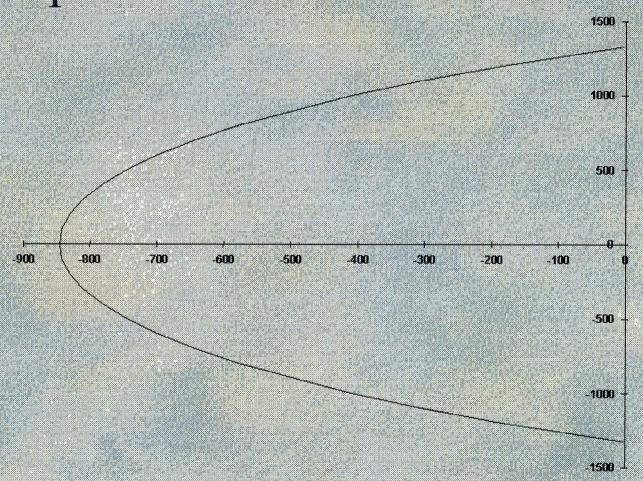


C-11: Simulated Groundwater Capture Zones for North Area

Project Name: B		otte		Well ID:	E13NB
Project Number:	4695-0010			Depth to Static Water	3.52
Step	Flow Rate	Depth to Water	Drawdown	Specific Drawdown	
	Q		S	s/Q	
	(gpm)	(ft)	(ft)	(ft/gpm)	
0	0.25	10.532	7.01	28.05	
1	0.5	16.711	13.19	26.38	
2	0.6	23.046	19.53	32.54	
Aquifer Loss Coe	efficient, B=	9.092307692			
Well Loss Coeffic		24.89957265			
BQ= aquifer loss					
CQ^2 = well loss	es				
Predict Total Dra	wdown with 1	this equation: s = 1	BQ + CQ^2		
	Aquifer	Well	Total	% Drawdown due to Laminar Flow	
Flow Rate	Mailei		White the control of the second second		
Flow Rate Q	Losses	Losses	Drawdown	(BQ/BQ+CQ^2)	
		Losses (ft)	Drawdown (ft)	(BQ/BQ+CQ^2)	
Q	Losses			(BQ/BQ+CQ^2) 79%	
Q (gpm)	Losses (ft)	(ft)	(ft)		
Q (gpm) 0.1	Losses (ft) 0.91	(ft) 0.25	(ft) 1.16	79%	
Q (gpm) 0.1 0.2	Losses (ft) 0.91 1.82	(ft) 0.25 1.00	(ft) 1.16 2.81	79% 65%	
Q (gpm) 0.1 0.2 0.25	Losses (ft) 0.91 1.82 2.27	(ft) 0.25 1.00 1.56	(ft) 1.16 2.81 3.83	79% 65% 59%	
Q (gpm) 0.1 0.2 0.25 0.5	Losses (ft) 0.91 1.82 2.27 4.55 6.82 9.09	(ft) 0.25 1.00 1.56 6.22 14.01 24.90	(ft) 1.16 2.81 3.83 10.77 20.83 33.99	79% 65% 59% 42% 33% 27%	
Q (gpm) 0.1 0.2 0.25 0.5	Losses (ft) 0.91 1.82 2.27 4.55 6.82	(ft) 0.25 1.00 1.56 6.22 14.01	(ft) 1.16 2.81 3.83 10.77 20.83	79% 65% 59% 42% 33%	

QST Environmental	Client: BASF
Project No. 4695 - 010	Location: Wyandotte
	E13
1. (1) UMODAMODA O.01 0.001 1. 100. Time (mir	DATA SET: E13E.DAT 10/10/97 AQUIFER TYPE: Confined SOLUTION METHOD: Papadopulos - Cooper TEST WELL: E13 ESTIMATED PARAMETERS: T = 0.01981 ft2/min. S = 8.2114 E-06 S = 2.5087 E-06 TEST DATA: Q = 0.054 ft3/min. r = 15 ft. rc = 0.33 ft. rw = 0.5 ft.

Capture Zone Model E13NB

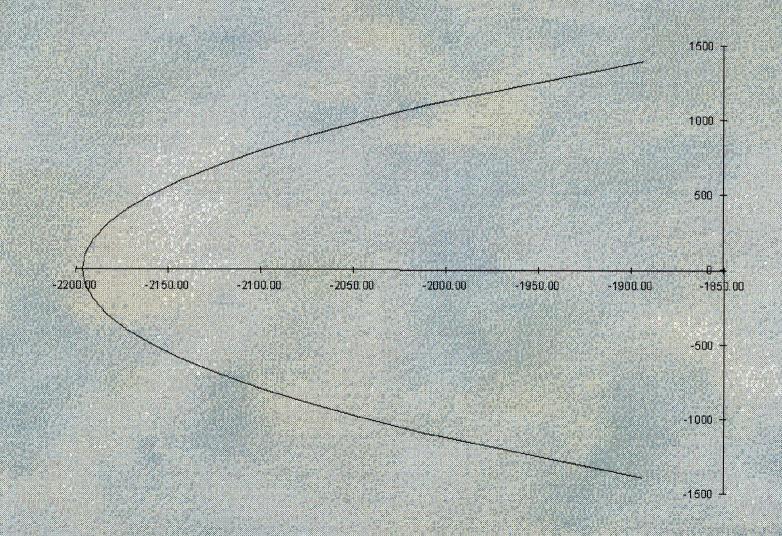


C-12: Simulated Groundwater Capture Zones for Southeastern Area

Project Name: B	ASF/Wyando	otte		Well ID:	E2NA
Project Number:				Depth to Static Water	5.72
Step	Flow Rate	Depth to Water	Drawdown	Specific Drawdown	
Осер	Q	Departo Valer	S	s/Q	
	(gpm)	(ft)	(ft)	(ft/gpm)	
0	0.219	7.41	1.69	7.72	
1	0.440	9.22	3.50	7.96	
2	0.820	15.79	10.07	12.28	
3	1.590	27.21	21.49	13.52	
Aquifer Loss Coe	fficient, B=	4.534053165			
Well Loss Coeffic	cient, C=	6.889198061			
		6.889198061			
BQ= aquifer loss	es	6.889198061	,		
BQ= aquifer loss CQ^2 = well loss	es es	6.889198061 his equation: s = B			
BQ= aquifer loss CQ^2 = well loss Predict Total Dra	es es wdown with t	his equation: s = B	Q + CQ^2	% Drawdown due to Laminar Flow	
BQ= aquifer loss CQ^2 = well loss	es es		Q + CQ^2 Total	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2)	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q	es es wdown with t	his equation: s = B Well	Total Drawdown	% Drawdown due to Laminar Flow (BQ/BQ+CQ^2)	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate	es wdown with t Aquifer Losses	his equation: s = B Well Losses	Q + CQ^2 Total		
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q (gpm)	es wdown with t Aquifer Losses (ft)	well Losses (ft)	Total Drawdown (ft)	(BQ/BQ+CQ^2)	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q (gpm) 0.1	Aquifer Losses (ft) 0.45	Well Losses (ft) 0.07	Total Drawdown (ft) 0.52	(BQ/BQ+CQ^2) 87%	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q (gpm) 0.1 0.2	Aquifer Losses (ft) 0.45 0.91	Well Losses (ft) 0.07 0.28	Total Drawdown (ft) 0.52 1.18	(BQ/BQ+CQ^2) 87% 77%	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q (gpm) 0.1 0.2 0.25	Aquifer Losses (ft) 0.45 0.91 1.13	Well Losses (ft) 0.07 0.28 0.43	Total Drawdown (ft) 0.52 1.18 1.56	(BQ/BQ+CQ^2) 87% 77% 72%	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q (gpm) 0.1 0.2 0.25 0.5	Aquifer Losses (ft) 0.45 0.91 1.13 2.27	Well Losses (ft) 0.07 0.28 0.43 1.72	Total Drawdown (ft) 0.52 1.18 1.56 3.99	(BQ/BQ+CQ^2) 87% 77% 72% 57%	
BQ= aquifer loss CQ^2 = well loss Predict Total Dra Flow Rate Q (gpm) 0.1 0.2 0.25 0.5 0.75	Aquifer Losses (ft) 0.45 0.91 1.13 2.27 3.40	Well Losses (ft) 0.07 0.28 0.43 1.72 3.88	Total Drawdown (ft) 0.52 1.18 1.56 3.99 7.28	(BQ/BQ+CQ^2) 87% 77% 72% 57% 47%	

QST Environmental		Client: BASF
Project No.	4695 - 010	Location: Wyandotte
		E2
	10. [DATA SET: E2.DAT 10/09/97
	1,	AQUIFER TYPE: Confined SOLUTION METHOD: Theis TEST WELL: E2
3	Ordwoown (II)	ESTIMATED PARAMETERS: T = 0.02782 ft.2/min. S = 0.001689
	0.1	TEST DATA: Q = 0.192 ft3/min. r = 15 ft. rc = 0.33 ft. rw = 0.5 ft.
	1, 10,	100. 1000. 10000. Time (min)

Capture Zone Model E2NA



C-13: Simulated Groundwater Capture Zones for Southwestern Area